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STATISTICAL ANALYSIS OF 166 CASES OF SECONDARY SYPHILIS, OBSERVED AT THE LOCK HOSPITAL IN THE YEARS 1838-39, WITH OBSERVATIONS.

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In Medical Statistics, it frequently happens that favourable results are displayed, whilst others are passed over in silence; false impressions may thus be conveyed, even though the facts published be true. The accuracy of statistical conclusions in medicine may consequently be frequently doubted, especially when it is against the interest both of the patients and of the surgeons, that unsuccessful cases should be recorded. Especially with regard to the treatment of disease, are we bound to look with some degree of suspicion upon statistical evidence; for, although the favourable cases may be fairly enough stated, it can hardly be expected that large numbers of unsuccessful cases, particularly when they have to be collected from different sources, and when the stimulus of success is wanting to fix them upon the attention, can be brought forward with the same degree of prominence or fidelity. Valuable, then, as such evidence must always be, and necessary as an appeal to it is in all disputed questions, there must still be a doubt with regard to the conclusions drawn from it, when derived only from successful results. In the accompanying tables, a different plan has been followed, and one which is not liable to these objections. It has been my endeavour to investigate certain points connected with the history of Syphilis, from those cases only where the treatment of the primary affection had not been successful in preventing secondary disease. For this purpose, I have collected, and noted, as accurately as circumstances would permit, all the cases of Secondary affection which presented themselves at the Lock Hospital during the greater portions of the years 1838-39. By analyzing these cases, and observing the different probable causes of failure in the treatment of the primary affection, and the relative frequency with which particular symptoms followed the mercurial or the

non-mercurial plan of treatment, some important practical results may, I think, be deduced.

If it can be shewn, that after a disease has been treated according to a certain plan, any symptom, or set of symptoms, which naturally may be expected, does not make its appearance, or only does so in a small proportion of cases, we may with tolerable certainty conclude that the course of the disease is influenced by the treatment. If, for example, in the present day, it should be found, that out of 100 patients presenting themselves with small-pox, a very small proportion only had ever been vaccinated, this negative evidence in favour of vaccination would carry with it as much weight as would attach itself to the histories of a hundred cases of vaccinated persons, in whom a very large proportion subsequently remained free from the disease. It is upon this kind of negative evidence that some of the following conclusions are based; and if the facts have been accurately recorded, they must, I think, be regarded as at least of equal value with those which have been derived from the more direct evidence of the successful issue of particular cases. I have only further to premise, that the accompanying cases were noted without any particular preconceived opinions on the points which they tend to establish, and are preserved in order to attest the accuracy of the conclusions which have been deduced from them.

In analyzing the results of the mercurial and the non-mercurial plans of treatment, it is requisite to compare similar classes of cases with each other.

For this purpose, the cases have been divided, in Table II, into those which presented characteristic induration, and those in which this was not observed; and each class is again subdivided into those where the primary affection was treated by mercury, and those in which it was not so treated. A comparative view is given of the results of cases where the primary ulcer was accompanied by induration, according as it was treated with and without mercury; and a similar subdivision is observed in giving the numerical proportion, in which particular symptoms were observed to accompany, or to follow, primary ulcers where specific induration was not observed. The comparative results deduced from this table are confined to the cases which presented themselves in male patients, as in these the different primary affections may be classed with greater certainty, and the histories of the disease may be obtained with greater accuracy than in females. Similar results are afforded by taking the whole number of cases together; but the numerical proportions, given with reference to the men only, I believe to be the most accurate, and I shall therefore confine myself to these in the following observations.

In comparing together the cases of ulcer accompanied by induration, we find that the existence of bubo is recorded in the proportion of 61 per cent. where the primary affection was treated with mercury, and in 41 per cent. where this medicine was not used; and that on the other hand, the absence of bubo is noted in the proportion of 35 per cent. in the former, and of 53 per cent. in the latter class. The conclusion, which necessarily follows this comparison, is, that where mercury is given ineffectually, so as not to eradicate the disease from the system, it encourages the formation of bubo. The same medicine which

promotes the absorption of the specific induration, is seen thus to favour the transmission of the virus along the course of the absorbents. The object of the effusion of lymph around the sore, and its mode of treatment, then become of practical interest with regard to the absorption of the venereal poison; and what is observed with respect to it, I believe to be perfectly in accordance with what takes place in other parts of the body. When effusion of lymph circumscribes a wound upon the hand, it is well known how seldom the absorbents become inflamed; and, on the contrary, how frequently this happens when the healthy effusion of lymph is wanting, and diffuse cellular inflammation occurs. I conclude, then, that the effusion of lymph around venereal sores, is an attempt of nature to limit the progress of the disease, and that when it is prevented, or does not occur, the poison finds a more ready course along the absorbents than under other circumstances. In support of this view, it is shewn in Table II, that the absence of bubo is recorded in the proportion of 53 per cent. in cases of indurated sores treated without mercury, and in the proportion of 26 per cent. only, under the same mode of treatment, where the sores were not accompanied by induration. The table presents one apparent exception to these conclusions in the fourth series; but this depends upon the number of cases of sloughing sores which are included in it. The sloughing of the parts, when it occurs, appears to prevent the virus finding its way along the absorbents, even more effectually than the effusion of lymph does in other cases; and hence it is, that unindurated sores treated with mercury, shew a comparatively small number of accompanying affections of the inguinal glands.

The circumstances which favour the effusion of lymph around venereal sores, are the same as those which most frequently accompany the papular eruption. The proportion in which this form of eruption was noted, after indurated sores, when not influenced by treatment, was 47 per cent.; whereas it occurred in the proportion of about 17 per cent. only after ulcers, in which no induration was observed. The effect of mercury in influencing the form of secondary symptoms, which appear after a primary ulcer, is also indicated in a very marked manner with regard to this kind of eruption. The papular eruption is shewn not to follow in half the number of cases where indurated sores have been treated by mercury, as when that medicine has not been employed.

The comparative frequency with which the different forms of eruption make their appearance may thus be generally stated:—The papular and scaly are observed in a greater relative proportion of cases after the treatment of the primary affections by local means; the pustular and tubercular after the administration of mercury. That the kind of eruption which appears, follows some very definite and predetermined law, has long been suspected, although pathological researches have hitherto failed to determine, with any degree of precision, the circumstances by which it is influenced. The following very unexpected result clearly points to the existence of such a law, although it perhaps does little to remove the mystery in which it is involved. It will be seen, by reference to the line containing the indurated sores, which were treated by mercury, that the papular eruption bears the same relative proportion to the pustular, that the scaly does to the tubercular.

The regularity with which the numbers present themselves, is such, that if any three of them are given, the common rule of three would indicate the fourth with considerable accuracy. The following proportions will shew how closely the result given by actual observation, accords with that which would be afforded by calculation:

Papular.	Scaly.	Pustular.	Tubercular. By Observation.	Tubercular. By Calculation.
7 :	4 ::	11 :	6	6·28

The ingenious hypothesis maintained by some surgeons of eminence, that the kind of primary ulcer influences the secondary eruption, must be allowed to have been founded upon observation, however numerous the exceptions, and however medical men may differ with regard to its explanation. The facts mentioned above, shew that such a connexion does exist between particular kinds of ulcers and particular secondary symptoms, but they unequivocally point to these as being common effects of the same causes. They shew that the same condition of system which readily generates the lymph which circumscribes a chancre, will readily produce the lymph which forms the pimple of the secondary affection. They also shew that the mode of treatment of the primary affection has a most marked effect upon the form in which constitutional Syphilis presents itself; and it may be easily imagined, that a surgeon who is in the habit of treating some descriptions of sores in a particular way, may be himself the means of favouring the production of the very kind of eruption which he records as the consequence of the primary disease.

In the conclusions drawn from the accompanying table, with respect to the action of mercury, it is necessary to bear in mind, that they are composed exclusively of cases in which the treatment did not prevent the system from becoming contaminated by the disease; and we find, that under these circumstances, not only does the mercury produce an injurious effect upon the constitution, but it also acts injuriously upon the local disease. Taking the average length of time in which the primary affections healed, as they are recorded in the first table, we find the result to be in favour of the non-mercurial plan of treatment. We may thus trace the injurious effects of mercury, when given ineffectually, through every stage of the disease; and the great question, therefore, presses itself upon our attention, how are we to know whether mercury is likely to produce its beneficial, or its injurious, results? When may we expect it to act as a remedy for the disease, and when as a poison in the system?

The following are some of the principal circumstances which occurred during the treatment of the primary affections, and, I conceive, prevented the mercury from producing its legitimate action upon the system and the disease:

In 32 out of 166 cases, three weeks was the longest period that the mercury was continued.

In 19 cases, it did not produce a decided effect upon the system.

In 11 cases, its effect was either violent or greater than desirable.

In 4 cases, the patients were exposed to alterations of temperature, or to cold air, during the time of taking the mercury.

In 2 cases, the bowels were much deranged during its administration.

In 3 cases, the mercurial course was intermitted.

In 10 cases, the mercury was taken irregularly.

In 7 cases, the mercury was commenced a considerable time after the first appearance of the disease.

In 1 case, the venereal eruption made its appearance three weeks after the commencement of the mercurial course, and the venereal action must, therefore, have commenced in the system before the effect of the mercury was established.

These cases, added to 75, in which no mercury was administered for the primary disease, leave only two out of the whole number of cases in which the principal cause of failure in the treatment of the primary affection may not be pointed out; and even in these two cases, the evidence, with regard to proper mercurial treatment, is not very satisfactory: in one, the patient stated, that he had taken four pills daily for four months; and in the other, eight months had elapsed between the period of the patient's taking mercury and his admission into the Hospital.

When, in such a number of consecutive cases, we find so small a proportion that had been subject to proper mercurial treatment, we are, I think, justified in concluding, that after such treatment the persistence of the disease is seldom met with; and the general principle may, I believe, be maintained, that where a mild mercurial action has been continued for about four weeks, shortly after the appearance of the disease, and has not been interfered with by any of the causes above enumerated, the instances in which secondary symptoms will follow, are very rare. Exceptions to this rule will occasionally present themselves; but so long as causes can be assigned for such exceptions, they rather tend to maintain than to invalidate the principle. The most frequent cause of failure in the administration of mercury for the cure of the venereal disease, next to its being sustained an inadequate length of time, is probably the want of proper regulation with regard to its effect. The quantity given, and not its effect upon the system, are made not uncommonly the criterion of its intended action.

Mr. Pearson[1] gives, as the result of his experience, drawn from not less than twenty thousand cases, that mercury may safely be confided in for the cure of the venereal disease, when we have that disease only to contend with; and it is not a little gratifying to me to find the negative evidence, drawn from the statistics which are now brought forward, supported and confirmed by such an authority. The conclusion at which I have arrived, from all the points that have been adduced, is, that where mercury is inefficiently given, or when its action is not properly regulated, it acts prejudicially; but under other circumstances, it may be relied upon for the cure of Syphilis.

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[1] Observations on the Lues Venerea, p. 99.

TABLE I. VIEW OF 166 CASES OF SECONDARY SYPHILIS OBSERVED AT THE LOCK HOSPITAL, DURING THE YEARS 1838-39.

Sex.	Age.	Primary affection.	Bubo.	Took Mercury.	Commenced mercury.	Mouth affected.	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
1	M. 28	Excavated sores on glans and prepuce, that on the glans indurated; had bubo.	Yes.	Pil. hydr. gr. v, bis die for 7 weeks, during which he was at work.	1 month.[1]	1 week.	7 weeks.[1]	3 months[1]	Sore throat; eruption, partly tubercular and partly pustular.
2	M. 21	Circular sore, with indurated base, leaving an indurated cicatrix.	..	For 3 months.	3 months.	10 weeks; profusely.	6 months.	27 weeks.	Mottled skin; sore throat; general debility.
3	M. 30	Slight ulcer on the prepuce.	..	For sec. affect. 2 pills daily for 3 mths.	12 months.	....	3 months.	12 months.	Exfoliation of vomer; ulceration of the posterior arch of the palate.
4	M. 20	Phagedenic ulceration of frænum; several small circular ulcers, filled with yellow slough, on glans.	No.	Two weeks and 5 weeks, with 3 weeks interval.	2 weeks.	3 weeks.	10 weeks.	3 months.	Scaly eruption on bend of elbows; mulberry-coloured eruption on the inside of the thigh; excavated ulcers on the tonsils; mottled skin.
5	M. 29	Sore, destroying the frænum.	..	Pil. hydr. gr. v, for 6 weeks.	1 week.	No.	3½ weeks.	8 months.	Iritis; eruption of ulcerated tubercle.
6	M. 24	Ulcerated bubo; no history of sore or discharge.	Yes.	Twenty-four pills.	....	Yes.	....	5 months.	General eruption of papulæ; iritis.
7	M. 34	Phimosis; discharge; small sore near frænum.	..	For 3 weeks.	At once.	Yes.	3 weeks.	4 months.	Eruption—at first tubercular, subsequently pustular; iritis.
8	F. 19	Circular indurated sore; discharge; condylomata.	No.	Not for primary affection.	6 weeks.	....	....	6 weeks.	Scaly eruption, slightly raised and flat; sore throat.
9	M. 22	Sore near frænum, leaving slightly indurated cicatrix.	Yes.	Took pills (mercurial?) for 6 weeks. Caught cold while taking them.	1 week.	Slightly.	3 weeks.	5 months.	Papular eruption; sore throat. The eruption recurred occasionally in a few scattered spots till the year 1844.
10	F. 28	Extensive ulceration of inner surface of both labia, surrounded by much induration.	No.	For secondary affection.	3 months.	Slightly.	Not when she left.	3 months.	Desquamating tubercular eruption on head, body, and limbs.
11	F. 18	Ulcerated condylomata on the opposed surfaces of both labia, and on the perinæum.	..	None.	....	....	....	2 months.	Pustular eruption on abdomen; ulcerated tonsils.

12	F.	26	Uneven circular superficial sore.	Yes.	None for primary affection.	13 weeks.	Yes.	....	9 weeks.	Ulcerated tonsils; tubercular eruption.
13	F.	19	Ulcerated condylomata; extensive ulceration of perinæum.	..	None for primary affection.	11 weeks.	Slightly.	....	11 weeks.	Ulcerated tonsils, with ash-coloured surface.
14	F.	25	Ulceration of inferior commissure and perinæum.	..	None for primary affection.	1 month.	Slightly.	....	4 weeks.	Eruption of lichen; succeeded first by a pustular, and subsequently by a tubercular eruption; iritis.
15	M.	25	Large florid sore, extending from dorsum of penis to frænum.	Yes.	None for primary affection.	11 weeks.	Very slightly.	14 weeks.	2 months.	Eruption of small desquamating tubercle; ulcerated tonsils. Eruption and ulceration of tonsils recurred after using mercurial inunction for a month.
16	M.	24	Circular greatly indurated sore, surrounding the orifice of the prepuce.	No.	None for primary affection.	15 weeks.	Yes.	....	15 weeks.	Excavated ulcer, coated with lymph, upon each tonsil; scaly, flat eruption, slightly elevated.
17	M.	24	Sore, destroying portion of glans penis. Had disease before.	Yes.	Two weeks.	At first.	Yes.	....	3 months.	Phagedenic ulceration of tonsils.
18	M.	40	Indurated sore on inner surface of prepuce.	No.	One month. Was exposed to cold while taking the mercury.	At first.	Yes.	6 weeks.	9 weeks.	Pains in limbs; exfoliation of portion of os frontis.
19	M.	20	Indurated sore near the frænum. (Strumous constitution.)	No.	No.	....	....	4 months.	2 months.	Papular eruption on face; pustular eruption on back and body.
20	M.	18	Large oval sore, with florid surface and indurated base.	Yes.	One or two pills daily for 7 weeks.	2 weeks.	No.	6 weeks.	13 weeks.	Mottled skin; scaly eruption upon body; ulceration of right tonsil.
21	M.	19	Small sore on fold of prepuce.	Yes.	Four pills daily for 4 months (mercurial?)	At first.	Yes.	....	10 weeks.	Spots of lepra on the abdomen and arms.
22	M.	16	Two indurated sores on inner surface of prepuce.	..	None for primary affection.	....	....	....	7 weeks.	Papular eruption; vascularity of fauces; right tonsil slightly ulcerated.
23	M.	32	Phimosis, with sloughing sore.	..	Three pills daily for 3 weeks. Before salivation occurred, bled for affection of liver.	2 weeks.	Very much.	11 weeks.	3 weeks.	Rupia.
24	F.	18	Irregular excavated sore, with thickened edges.	..	None for primary affection.	....	....	$5\frac{1}{2}$ months.	4 months.	Enlargement of right tonsil; excoriation of left. (Qy. Venereal?)
25	F.	20	Circular sore, with indurated base.	..	Eighteen pills in 2 weeks.	At first.	Yes.	....	6 weeks.	Right tonsil enlarged, presenting an excavated ulcer.
26	F.	19	Ulcer, accompanied by swelling and inflammation of labium.	..	Used mercurial friction for 4 weeks.	2 weeks.	....	7 weeks.	6 weeks.	Ulcerated tonsils; eruption on neck and body, chiefly papular, but in some places pustular. The papulæ appeared three weeks after commencing mercury.

[1] After the appearance of the Primary affection.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected.	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
27 M. 24	Small sores on prepuce, with ash-coloured surface; when healed, leaving some induration.	No.	None for primary affection.	....	....	3 weeks.	6 months.	Excavated ulcer on tonsils, with ash-coloured surface.
28 F. 18	Small circular indurated sore on left labium, with fawn-coloured surface.	Yes.	None for primary affection.	....	....	....	2 weeks?	Scaly and slightly raised circular eruption on various parts of the body. Had sore throat before the appearance of the present disease.
29 F. 19	Circular sore, with indurated base on left labium.	No.	None for primary affection.	....	....	....	5 weeks.	Scaly eruption, flat, circular, slightly raised, covering the whole body.
30 F. 17	Ulcer on the exterior of left labium, surrounded by considerable induration.	No.	None for primary affection.	....	....	....	6 weeks.	Papular eruption; sore throat.
31 M. 20	Ulcer on glans penis, spreading rapidly.	Yes.	Three pills daily for 8 days.	5 weeks.	Very much.	9 weeks.	4 months.	Sore throat; large rupial scabs.
32 M. 36	Ulcer destroying frænum, leaving indurated cicatrix.	No.	Took pills for 3 weeks.	2 weeks.	Slightly.	8 weeks.	10 weeks.	Excavated ulcer on each tonsil.
33 M. 23	Two ulcers on the prepuce, accompanied by surrounding induration.	Yes.	Uncertain whether any.	....	No.	2 months.	8 months.	Copper-coloured stains on various parts of the body, presenting a mealy scurf upon their surface.
34 M. 20	Phimosis; two sores upon the prepuce, appearing first as excoriations, subsequently becoming indurated.	Yes.	Took 20 different sorts of pills.	Probably 1 month.	For one month.	6 weeks.	13 weeks.	Scaly eruption, circular, slightly elevated, chiefly upon the face. It faded in two months, but subsequently returned.
35 M. 24	Superficial sores upon the under surface of prepuce.	Glands slightly enlarged.	None for primary affection.	....	....	....	6 months.	Excavated ulcer upon each tonsil.
36 M. 18	Large sore, with indurated base, clean surface, and florid red margin on external prepuce. The cicatrix was indurated when he discontinued the mercury.	Glands enlarged.	Pil. hydr. gr. v, bis vel ter die, from May 22 to July 10.	4 weeks.	Very slightly.	6 weeks.	12 weeks.	Scaly eruption on arms and hands; mottled skin; two circular spots of ulceration on right tonsil, with ash-coloured surface.
37 F. 22	Gonorrhœa; no history of sore; ulceration of upper part of vagina after appearance of eruption.	No.	None for primary affection.	....	....	....	1 month.	Papular eruption, in parts becoming tubercular, recurring after an interval; inflammation of the conjunctiva of each eye.

38	F.	19	Raised florid sores, with indurated base, on opposite surfaces of both labia.	No.	None for primary affection.	....	....	....	5 months.	Eruption, chiefly on the shoulders and back; some spots having the appearance of lepra, others that of a central tubercle surrounded by papulæ; a spot of lepra on the left temple followed a slight injury. Tonsils enlarged and superficially ulcerated.
39	F.	35	Two sores upon the labia.	..	Pills for 2 weeks, and again for 3 or 4 weeks; fumigation.	....	Twice.	3 months.	3 months.	Sore throat; tubercular eruption; rupial scabs.
40	F.	27	Sore on inferior portion of left labium.	..	Three pills daily for 1 week.	....	....	....	7 months.	Pains in the joints and bones; rupial scabs. (Sight of one eye was destroyed by old inflammation.)
41	F.	30	No history of primary affection.	After eruption appeared.	For many months for secondary affection.	....	Very much.	....	....	Florid tubercular eruption, with shining scales, having a tendency to form in circles.
42	F.	19	Gonorrhœa; ragged sore between labium and thigh.	No.	None for primary affection.	For sec. symptoms.	Yes.	....	7 weeks.	Papular eruption, recurring at the end of five weeks.
43	F.	20	Superficial sores; gonorrhœa.	Ulcerated.	Hydr. bichlorid, gr. $\frac{1}{8}$ ter die, for 5 weeks.	....	....	....	3 months.	Syphilitic paronychia.
44	F.	23	Gonorrhœa; no history of any sore.	..	None for primary affection.	For sec. symptoms.	....	....	3 months.	Sore throat; tubercular eruption; tenderness of the tibia and humerus.
45	M.	22	Sore on frænum, having a pea-like induration.	Slightly enlarged gland.	None for primary affection.	For secondary affection.	1 month.	2 months.	5 months.	Sore throat; mottled skin; scaly eruption on arms. Got well without medicine after admission into hospital.
46	M.	23	Sore destroying frænum.	Ulcerated.	A week for primary symptoms; irregularly afterwards.	Directly.	Slightly at first.	3 weeks.	4 months.	Much vascularity of fauces; deep ulcer on left tonsil, with phagedenic surface. Tubercular eruption; some of the spots suppurating, others presenting scales upon their surface.
47	M.	25	No history of primary sore.	No.	Two pills night and morning for 5 weeks 9 months before admission.	For sore throat.	Teeth loose.	....	....	Destruction of soft palate, leaving exposed the inferior surface of the palate bones. Became rapidly worse after taking the mercury.
48	F.	24	No history of primary sore.	Yes.	None for primary affection.	....	....	....	3 months after bubo.	Left tonsil ulcerated; mottled skin.
49	F.	16	Gonorrhœa; condylomata.	Yes.	No.	....	No.	....	8 months.	Desquamating tubercles on chest, back, and shoulders.
50	F.	24	No history of sore.	Yes.	No.	....	No.	....	2 months.	Scaly eruption.
51	M.	25	Sore on prepuce, having induration the size of a large pea.	Very slight.	Two pills each night for 2 or 3 weeks.	3 months.	Very much.	14 weeks.	15 weeks.	Psoriasis of the throat; mottled skin; scaly eruption, slightly raised.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected.	Primary sore healed	Appearance of secondary symptoms.	Secondary symptoms.
52 F. 17	Sore with considerable induration on nympha.	No.	None for primary affection.	....	....	....	1 month.	Scaly eruption; enlargement and scaled ulcer of tonsil.
53 M. 24	Sore without any induration on prepuce.	No.	Three pills daily for 6 weeks.	2 days.	Very slightly.	5 weeks.	3 months.	Red circular copper-coloured spots, more raised in centre than at the circumference, terminating in desquamation, and disappearing spontaneously. Excavated ulcer on tonsil.
54 F. 17	No history of primary affection.	No.	No.	....	No.	....	....	Small circular patches of eruption, resembling desquamated tubercles; those situated on the elbows and knees presenting more the character of lepra.
55 F. 18	Small circular indurated sore on left labium, with fawn coloured surface.	Slight.	None for primary affection.	4 weeks.	....	6 weeks.	2 weeks?	Scaly eruption, slightly raised, on various parts of the body. There was a cicatrix on the tonsil.
56 M. 25	Small sore on frænum.	Yes.	One, two, or three pills daily for two months.	6 weeks.	Kept sore.	8 weeks.	11 weeks.	Excavated ulcer on tonsil; numerous small aphthous spots on soft palate. Rupial spots on forehead. Was greatly debilitated.
57 M. 22	Sore on frænum.	..	Took pills and used ointment two weeks.	At first.	For 4 weeks.	3 weeks.	18 months.	Successive crops of pustular eruption on body, limbs, and face. Patient was of a strumous constitution.
58 F. 28	Discharge; ulcerated condylomata.	Yes.	None for primary.	For sec. affection.	....	....	4 months.	Scaly circular eruption, slightly elevated, covering the whole body.
59 F. 20	Sore on inferior commissure.	..	Seven pills.	4 weeks.	Slightly.	1 month.	6 weeks.	Enlargement of tonsil; mottled skin; pains in joints.
60 M. 21	Sore, leaving indurated cicatrix on skin of penis.	Yes.	Three pills daily for ten weeks (missed a few days). At work during treatment.	Immediately.	Very slightly.	8 or 10 wks.	14 weeks.	Papular eruption; ulcerated tonsils.
61 M. 21	Sore, leaving induration on skin of penis.	Yes.	One or 2 pills daily for 7 weeks (rather irregularly). At work during treatment.	3 weeks.	Yes.	6 weeks.	5 weeks.	Excavated ulcer on tonsil; pustular eruption on back and arms; some spots, tubercular and desquamating.
62 M. 48	Sore on skin of penis, leaving induration.	No.	Two pills every night for two months.	2 weeks.	Violently.	6 weeks.	6 weeks.	Pustular eruption on face, chest, and shoulders, leaving copper coloured stains.

63	F.	19	Sore, surrounded by induration, extending through left nympha.	Yes.	Pil. Hydr. gr. ij, bis die, for one week.	2 weeks.	Slightly.	....	6 weeks.	Scaly eruption on face; papular on shoulders.
64	F.	20	Indurated sore.	No.	One week.	3 weeks.	Slightly.	5 weeks.	3 weeks.	Ulcerated tonsils; copper-coloured desquamating eruption on shoulders.
65	M.	26	Sore, leaving an indurated and elevated margin.	No.	Two or three pills daily for three weeks.	3 or 4 days.	For 2 weeks.	3 weeks.	5 weeks.	Scaly elevated eruption.
66	M.	34	Sloughing sore, destroying glans penis.	..	Occasionally for 10 months, but not for longer than 3 weeks at a time.	Shortly after appearance of sore.	Once, not much.	....	4 months.	Sloughing of the throat, which destroyed the arches of the palate, and extended to the back of the pharynx. The sore contracted in the process of healing, so as to render deglutition extremely difficult.
67	M.	26	Two sores, leaving induration in substance of penis behind the glans.	No.	A few pills.	At first.	No.	....	2 months.	Eruption covering whole body; terminating in mealy desquamation, and of a brownish colour.
68	F.	18	Sore on labium (destroyed with caustic).	..	Pills for 17 days.	2 weeks.	Slightly.	3 weeks.	5 weeks.	A few copper-coloured spots; ulcer on tonsil, coated with layer of white lymph
69	F.	22	Gonorrhœa.	Yes.	No.	....	No.	....	1 month.	Papular eruption, leaving brown stains.
70	M.	19	No history of primary disease.	No.	No.	....	No.	....	....	Confluent slightly raised patches of eruption, circular and flat, and terminating in scabs, over whole body. When the first eruption disappeared, distinct papulæ made their appearance.
71	F.	23	Two sores, which healed in a fortnight.	No.	Three weeks.	Immediately.	Much.	2 weeks.	3 months.	Ulcerated tonsils; eruption covering body, partly papular, but for the most part larger, and desquamating upon the surface.
72	M.	27	Sore on prepuce, leaving indurated cicatrix.	Yes.	Two weeks. At work during the time.	2 weeks.	1 week.	3 weeks.	5 months.	Eruption, copper-coloured, slightly elevated; numerous small elevated papillæ in some of the portions of discoloured skin.
73	M.	29	Indurated sore on prepuce.	Very slight.	Ten weeks. At work during the time.	2 months.	Much.	4 months.	4 months.	Scaly eruption; ulcerated tonsils.
74	M.	19	Phimosis; much induration in fold of prepuce.	No.	None for primary affection.	....	No.	....	3 months.	Desquamating papular eruption, covering the whole body.
75	F.	25	Sore on labium, producing painful swelling.	Very slight.	None for primary affection.	3 weeks.	....	....	4 weeks.	Scattered scaly eruption, slightly elevated, some spots suppurating.
76	M.	26	Sore, accompanied with considerable induration, producing phimosis.	Slight.	One or 2 pills daily for three weeks.	7 weeks.	Considerably.	....	....	Papular eruption; ulceration between the toes.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected.	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
77 M. 21	Sore, leaving indurated cicatrix.	No.	One pill night and morning for 2 weeks.	Immediately.	....	3 months.	2 weeks, or 9½ months.	Papular eruption in clusters, with a few tubercles.
78 M. 33	Circular sore, leaving slight induration for three years.	No.	Several times; five weeks at first.	2 weeks.	Several times.	5 weeks.	2½ months.	Tubercular eruption; ulceration of throat; nodes on tibia.
79 M. 41	Discharge from urethra. No history of primary sore.	Yes.	Took pills irregularly.	1 week.	Teeth loose 3 weeks.	(Discharge ceased) 8 months.	10 months.	Irregular patch of scaly eruption on leg; sore throat.
80 M. 42	Sore behind corona glandis, reported without induration.	No.	Pills for 3 weeks, night and morning.	6 weeks.	Not at all.	2 months.	1 or 6 mnths.	Scaly eruption.
81 M. 35	Extensive ulceration around corona glandis, with much swelling of prepuce.	No.	A great deal for 3 weeks. At work during this time.	3 weeks.	Not at all.	....	6 months.	Scaly eruption on arm, followed by eruption of pimples on face.
82 M. 25	Sore on penis, leaving indurated cicatrix.	Slight.	For three weeks.	1 month.	Not at all.	7 weeks.	10 weeks.	Eruption, terminating in unhealthy spots of ulceration.
83 M. 23	Sore behind corona glandis, circular, and accompanied by defined induration.	Yes.	None for primary affection.	....	....	....	11 days.	Ulceration of tonsils; papular eruption covering whole body; some spots shewing a tendency to desquamate.
84 M. 22	Slight excoriation on prepuce. No other history of primary affection.	Suppurating in both groins.	One pill every night for a week.	1 week before admission.	Gums ulcerated.	....	....	Eruption of scattered papulæ, some of which have terminated in ulceration; ash-coloured slough, with much vascularity of tonsils.
85 F. 28	Small healing sore on left labium. No history.	..	.. ..	....	....	....	....	Vascularity and superficial ulceration of throat; scaly eruption on arms and chest.
86 F. 17	Discharge; no distinct history of sore.	Yes.	None before admission into hospital.	....	....	....	3 months.	Ulceration of tonsils, and redness of the arch of the palate; eruption, principally upon the face. Improved rapidly under mercury.
87 F. 19	Sore, reported indurated.	Yes.	None for primary affection.	....	....	3 weeks.	2 months.	Circular, scaly, elevated eruption, followed seven months afterwards by spots of ulceration upon different parts; ulceration through the septum of the nose. Took two powders, which salivated her.
88 M. 23	Sore, with circular induration in the situation of the frænum.	..	During five or six weeks. Much exposed to weather du-	2 months.	....	Ulcerated again, with appearance	6 months.	Desquamating eruption; ulcer on right tonsil.

89	M.	19	Phimosis; ulceration of prepuce.	Very slight.	Not three weeks.	2 weeks.	Yes.	1 month	6 months.	Scattered papular eruption; extensive ulceration of throat. (Fresh infection two months after the first.)
90	M.	21	Small sore, not attended with, or leaving any characteristic induration.	No.	None.	....	No.	....	$3\frac{1}{2}$ months.	Flat circular patches of shining red elevated eruption; enlargement and ulceration of tonsils.
91	M.	25	Sore behind glans, leaving sore induration in cicatrix.	In both groins.	Three pills daily for 3 weeks. At work while taking mercury.	2 weeks.	Very much.	7 weeks.	3 months.	Three or four copper-coloured spots on head; enlargement and ulceration of tonsils; severe pain in joints.
92	M.	22	Large livid sore, with much induration, terminating abruptly.	Yes.	None for primary affection.	....	No	....	3 months.	Copper-coloured spots covering body.
93	F.	14	Sore on left labium, much inflamed and sloughing.	Very slight.	Probably for 5 wks. At usual occupation during the time.	3 weeks.	Yes.	....	2 months.	Circular, scaly, elevated eruption; enlargement and phagedenic ulceration of tonsils.
94	F.	18	Discharge; warts; extensive excoriation.	Yes.	None.	....	No.	....	5 weeks.	Circular scaly eruption; lichen.
95	F.	18	No history of primary sore.	Yes.	None.	....	....	....	....	Successive crops of flat circular slightly elevated eruption.
96	M.	19	Sore, leaving indurated and irritable cicatrix.	Yes.	Hydr. c. cretâ gr. ij. o.n. for 2 weeks for secondary symptoms.	10 weeks.	No, or very slightly.	2 months.	10 weeks.	Clustered papulæ, very slightly raised, giving the skin a mottled appearance; enlargement of tonsils; pains in limbs.
97	M.	41	Ulcer, destroying anterior part of glans penis, surrounded by much induration during the period of healing.	Yes.	A few pills irregularly.	....	No.	....	1 month.	Copper-coloured spots, scattered irregularly over body; circular, slightly elevated, on forehead. Surface of skin felt as if sprinkled over with sand.
98	M.	20	Sore, which healed in 3 weeks.	..	Rubbed in 5 weeks.	At first.	Violently.	3 weeks.	9 months.	Sloughing throat (effect of mercury?).
99	M.	28	Fissured sores on extremity of prepuce.	..	None.	....	No.	2 months.	6 months.	Flat circular patches of shining scaly elevated eruption on body.
100	M.	19	Sore, involving anterior aperture of prepuce, and corresponding portion of glans penis, accompanied by considerable swelling, but with much induration.	No.	None.	....	....	....	3 or 6 weeks.	Desquamating papular eruption.
101	F.	20	Sore on inner side of left labium.	..	No.	....	No.	....	6 weeks.	Eruption, partly papular, partly scaly, the latter flat, circular, slightly elevated.
102	M.	30	Sore on penis.	No.	Six weeks.	Directly.	No.	4 weeks.	4 months.	Desquamation of cuticle on hands and feet, with small very painful fissures.
103	M.	17	Sore on outer surface of prepuce, leaving very slight flat and superficial induration.	Yes.	None for primary affection.	....	....	7 weeks.	7 or 8 weeks	Faint patches of scaly eruption; irregular, but assuming a somewhat circular form; disappeared spontaneously.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
104 M. 28	Sore in depression behind glans penis, leaving induration after a course of mercury. (Had lived very hard.)	Yes.	Pil. hydr. gr. v, bis die, from Dec. 1st to Feb. 12th.	6 weeks.	6 weeks.	10 weeks.	5 months.	Papular eruption on body, subsequently becoming tubercular; sloughing ulcer of throat.
105 F. 21	Irregular painful ulceration, with red surface & abrupt edges.	Slight.	None for primary affection.	....	....	....	6 weeks.	Spots of scaly eruption on face; sore throat.
106 M. 20	Gonorrhœa; verrucæ; phimosis.	No.	Two grs. of hydr. oxym. a day, for one week.	7 weeks.	No.	....	6 weeks.	Eruption covering body; the apices of some spots containing lymph or pus, others desquamating.
107 M. 43	Sore, with glazed surface, destroying extensively the lower part of the prepuce, without any characteristic induration.	..	None.	....	No.	6 weeks.	....	Brown circular elevated patches of scaly eruption; disappeared spontaneously in six weeks.
108 F. 19	Circular sore on right labium.	Yes.	None for primary affection.	....	No.	....	9 weeks.	Circular scattered spots of scaly eruption: surface of both tonsils ulcerated, presenting a white appearance.
109 F. 16	Sore, with swelling of labia.	Yes.	None for primary affection.	7 weeks.	No.	6 weeks.	6 weeks.	Circular spots of brown scaly eruption; flat ulcer in the throat, with clean and rounded edges.
110 F. 24	Sore upon labium.	No.	Probably considerable quantity at various times.	3 months.	3 or 4 times.	3 weeks.	3 months.	Sore throat; followed by affection of the bones of the nose. The septum, turbinated bones, and nasal bones, became denuded.
111 F. 20	Sore in vestibulum.	Yes.	None for primary affection.	9 months.	....	3 weeks.	9 months?	Successive crops of eruption, leaving brown stains; affection of the eyes; dimness of sight.
112 M. 30	Sore on skin of penis. (Had the disease before)	Yes.	None.	....	No.	2 months.	4 months.	Desquamating papular eruption.
113 M. 20	Sore on lower part of prepuce (to which caustic had been applied), surrounded by general induration.	Yes.	Took a pill night and morning for one month.	3 months.	....	6 months.	6 months.	Faint copper-coloured circular spots.
114 F. 25	Sore on the external part of the labium, leaving indurated cicatrix.	Yes.	For two weeks, and afterwards for different periods.	....	For 1 week.	About 6 weeks.	6 months.	Patches of circular scaly eruption, extending towards the circumference, and leaving the skin of its natural colour in

115	F.	21	.. .. ..	..	Took pills for three weeks.	....	....	....	....	Eruption at three different periods; ulceration of tonsils and iritis.
116	F.	15	Discharge; no history of sore. Inoculation from bubo produced pustules on both thighs. The cicatrices on the thighs presented deep stains, with some induration, when she discontinued taking mercury.	Ulcerated.	Rubbed in ung. hydr ℈i every night, from June 14 to July 12.	Ten days after inoculation.	Slightly.	Bubo healed in 6 weeks.	5 months.	Eruption (pustular) covering the body, disappearing spontaneously in six weeks; reappearing again in a month, and leaving copper-coloured stains, not disappearing upon pressure a year after the commencement of the disease.
117	F.	18	Sore within labia, remaining six months during pregnancy.	Yes.	Irregularly three weeks for primary affection. Rubbed in for two months for secondary.	For secondary sympts. 3 mnths. after their appearance.	Very slightly.	6 months.	6 months.	Pustular eruption, leaving pits with deep stains, not disappearing upon pressure; some spots tubercular, with shining and scaly surface. Her child had eruption, resembling that of the mother.
118	F.	19	Sore upon labium.	..	Yes.	Immediately.	Very much. 4 weeks at first, and 3 different times afterwards.	3 weeks.	Shortly after primary.	Rupia on back and legs.
119	F.	17	Sore.	Yes.	Pills for three weeks.	3 months for sec. affection.	Yes.	3 weeks.	3 months.	Eruption of lichen on body and legs; brown stains on abdomen.
120	F.	20	No history of primary affection.	Not before appear. of 2nd sympt.	No.	..	No.	..	..	Successive crops of eruption, leaving stains at the expiration of four years.
121	F.	25	Two sores on perinæum, with well-defined margins.	..	Denies having taken mercury.	For sec. affection.	Apparently.	..	5 weeks.	Scaly eruption; mottled skin.
122	F.	20	Sore on labium; discharge.	..	One pill daily for ten days.	At first.	No.	3 weeks.	3 months.	Deep ulcer on each tonsil; eruption covering body, in some places papular, in others terminating in unhealthy spots of ulceration: (scrofulous swellings in the neck.)
123	F.	18	No history or sore, but ulcer discovered on os uteri.	No.	For secondary symptoms.	Ten days after secondary affection.	..	..	..	Severe febrile attack, succeeded in about ten days by a scaly, slightly tubercular, copper coloured eruption; tonsils enlarged.
124	F.	17	Sore, leaving indurated cicatrix at expiration of six months.	..	15 days at first; 6 wks. at end of 4 mths.	At first.	Slightly.	6 months.	?	Papular eruption, reappearing; emaciation; pains in limbs.
125	F.	22	Sore on labium.	Yes	No.	..	No.	4 weeks.	?	Chapped and dry condition of the skin of hands and feet; epithelium peeled off tongue; vascularity and superficial ulceration of throat; some eruption on skin; condylomatous looking excrescences in axilla.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected.	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
126 M. 19	Sore on anterior parts of glans penis, without much induration.	Yes.	For secondary affection.	9 weeks.	Yes.	3 months.	7 weeks.	Vascularity of tonsils; mottled skin.
127 M. 25	Gonorrhœa; phimosis.	No.	.. ..	..	..	..	5 weeks.	Eruption, confined to upper part of left thigh, consisting of thickly-studded desquamating papulæ.
128 M. 28	Sore on prepuce.	..	For secondary affection.	6 months.	Slightly.	3 months.	Within 6 months.	Sore throat; eruption of body, followed by node on tibia, and numerous spots of unhealthy ulceration on head.
129 M. 22	Small circular sore behind corona glandis, with indurated base. Buboes presented induration (which terminated abruptly), and were occasionally very tender for more than three months.	In both groins.	Ung. hydr. 3ss. every night, or alternate night, for fifteen days.	2 months.	Gums very tender.	2 months, without induration.	3 months.	Scaly, elevated eruption, covering body; dark copper-coloured tubercles on forehead; emaciation.
130 M. 24	Circular sore on skin of penis.	Never.	Rubbed in 2 weeks. Bowels much confined during the time.	2 weeks.	Most violently.	4 weeks.	2 months.	Eruption of central tubercle, with surrounding papulæ: scattered papulæ in various parts of the body.
131 M. 20	Condylomatous-looking sores on skin of penis, leaving raised induration.	No.	None for primary affection.	For sec. affection.	No.	About 2 months.	2 months.	Mottled skin, the darker parts slightly raised.
132 M. 25	Sore, leaving deep seated abrupt induration at end of nine months; remaining after taking medicine for secondary syphilis.	Yes.	Said he took pills for two months.	At first.	Not at all.	6 weeks, leaving "callous lump."	6 months.	Eruption of clustered papulæ.
133 M. 28	Had several sores; last one healed by caustic, leaving no induration.	No.	None for the last sore, but previously.	..	12 months before admission.	Last sore 4 weeks.	6 months.	Several sores, covered with thick brown scabs, on head and face; throat irregularly and extensively ulcerated.
134 M. 24	Sore on lower part of prepuce, causing paraphimosis.	Yes.	No.	..	No.	10 weeks.	3 months.	Sloughing throat; spots of scaly, circular, elevated eruption; other spots, terminating in patches of ulceration, concealed by thick brown scabs.
135 M. 23	Sore behind corona glandis, destroyed by caustic.	..	One week; bowels much confined.	5 weeks.	3 weeks.	3 weeks.	6 months.	Eruption of desquamating papulæ on body, followed by iritis; scrofulous glands in the neck.
136 F. 17	Discharge. Increased vascularity of parts around clitoris,	..	No.	..	..	..	Uncertain.	Circular patches of scaly eruption covering body, not elevated above the surface

137	F.	21	Corresponding superficial sores on the opposite surfaces of labia; sore, with indurated base, on margin of anus, extending within the sphincter.	Yes.	No.	..	..	4 months at least.	4 or 6 months.	A few circular slightly raised spots on arms and body, followed by darkish brown discolouration of mouth, terminating in mealy exfoliation; subsequently, tubercular eruption scaling upon the surface; one spot on the chin, presenting the character of lepra.
138	F.	17	Sore on left labium.	Yes.	For nearly a month. Bowels very much confined.	At first.	Violently.	5 months.	3 months.	Sore throat; scattered spots of copper-coloured eruption re-appearing during nine months.
139	F.	18	Discharge; ulcer, which broke out again after healing.	Yes.	No.	..	..	1 month.	4 months.	Clustered papulæ, forming patches of eruption on various parts of the body.
140	M.	23	Phimosis, with thickening in the upper part of the prepuce from a sore.	No.	Rubbed in ung. hydr. ʒss. o. n. for ten or twelve days.	2 months.	Yes.	Thickening and phimosis remained after 4 mths.	4 months.	Sloughing throat; enlarged tonsils; eruption of small pale papulæ covering face and body; one or two spots of scaly eruption.
141	M.	32	Sore, leaving indurated cicatrix.	No.	None for primary affection.	For sec. symptoms.	For sec. symptoms.	..	..	Tubercles, covered with very thin shining scales, and terminating in a few places in circular spots of ulceration.
142	F.	21	Small sore.	No.	None for primary affection.	For sec. symptoms.	For sec. symptoms.	3 weeks.	6 months.	Scaly, irregular eruption on face and upper part of body; a few distinct spots, considerably raised.
143	F.	..	Discharge. No history of sore.	Yes.	5 or 6 weeks. Bowels much confined.	Says for bubo.	Profusely for 1 week.	..	10 months.	Scaly eruption, scarcely elevated, covering body.
144	M.	24	Sore, commencing as small pimple, which broke in a week.	Yes.	None for primary affection.	For sec. affection.	..	6 weeks.	3 months.	Clustered papulæ, covering whole body, the central papulæ the largest; sore throat; tonsils presenting an ash-coloured surface.
145	M.	21	Sore, extending under prepuce, surrounded by much induration.	Yes.	Took a few pills.	1 month.	Slightly.	10 weeks.	10 weeks.	Excavated ulcer of tonsils; small tubercles on forehead, some of which present points of lymph or pus.
146	F.	20	Sore within right labium.	Yes.	For three weeks.	6 weeks.	Slightly	3 months.	6 months.	Spots of scaly eruption, covering the whole of the body in irregular patches; indolent ulceration of the throat.
147	F.	20	Sore within labia. Had the disease before.	No.	In sarsaparilla for four weeks.	5 weeks.	No.	6 weeks.	2 months.	Isolated scaly spots on body, assuming a tubercular character upon the neck.
148	F.	19	Sore, appearing as small pimple.	Yes.	None.	For sec. affection.	No.	1 month.	9 weeks.	Small circular patches of copper-coloured eruption, scaling on surface, covering the whole body.

TABLE I, CONTINUED.

Sex. Age.	Primary affection.	Bubo.	Took mercury.	Commenced mercury.	Mouth affected.	Primary sore healed.	Appearance of secondary symptoms.	Secondary symptoms.
149 F. 21	Circular sore on external surface of labium, without much induration, presenting rounded eminences in the centre.	No.	None for primary affection, except cinnabar fumigation for twenty days.	For sec. affection.	Slightly.	2 months.	10 weeks.	Enlarged tonsils, presenting circular, flat, opposed ulcers, with red margins; scaly eruption, confined to arms; dryness of cuticle of palms of hands.
150 F. 17	Sore on external labium, leaving induration for five weeks after it healed.	No.	For five weeks; and rubbed in for three weeks subsequently. Bowels very much confined.	2 weeks.	Sore for three weeks.	1 month.	2 months.	Enlargement and superficial ulceration of the tonsils, which presented a dirty surface, covered with purulent secretion. This continued, more or less, for eight months, and was then followed by spots of copper-coloured eruption on the forehead and arms.
151 F. 19	Sore on inner surface of labium.	No.	None for primary affection.	For sec. symptoms.	For sec. symptoms.	3 weeks.	2 months.	Eruption covering body, leaving copper coloured stains.
152 M. 24	Sore, with cartilaginous hardness, causing phimosis.	Slight.	Half a dozen doses.	..	No.	..	1 month.	Ulcerated throat; scaly eruption covering body.
153 M. 28	Ulceration of glans penis, succeeding previous disease.	..	Took thirty pills, two a-day.	5 weeks.		..	5 weeks.	Ulceration of tonsils, as deep at circumference as in the centre; small spots of flat scaly eruption covering body.
154 M. 24	Sore on corona glandis, with indurated base.	Yes.	None for primary affection.	3 months.	For sec. symptoms.	6 weeks.	10 weeks.	Ulcer on both tonsils, covered with a layer of adhering ash-coloured lymph; papular eruption, three or four papulæ being clustered together, and desquamating by means of one entire piece of cuticle, giving something the appearance of scaly eruption.
155 M. 28	Gonorrhœa. No history of sore.	No.	For two weeks, and subsequently for a month, for secondary affection.	6 months.	Twice for secondary symptoms.	..	6 months.	Scaly eruption covering body; followed for two years by continued re-appearance of small pimples on the nose, and circular red elevated patches of cuticle on palms of hands.
156 M. 26	Sore upon skin of penis.	Slight.	For three weeks for secondary affection.	6 months.	Slightly.	About two weeks.	6 months.	Scaly, flat, elevated eruption; small brownish tubercles under the thick cuticle of hands continued to re appear for two years. Had a phagedenic sore on the penis after the first appearance of the eruption.

157	F.	20	Sore on right labium, leaving a permanent cicatrix; induration remained for three weeks after it had healed.	No.	No.	..	..	2 months.	5 months.	Scaly eruption, followed in three months by a crop of pimples on chest and body; six months after, distinct circular patches of scaly eruption with raised edges; right tonsil superficially ulcerated; livid raised tubercles on hands. Had a fresh sore five months before the appearance of the last-mentioned eruption.
158	M.	35	Sore, with indurated edges, commencing as a pimple.	No.	None for primary affection.	For sec. symptoms.	For sec. symptoms.	6 weeks.	6 weeks.	Desquamating copper-coloured eruption.
159	M.	17	Sore round corona glandis.	No.	Irregularly, for secondary affection, and in large quantities.	4 months.	For three months.	5 months.	4 months.	Circular spots of copper-coloured eruption, raised at the edges, and covered by light ragged scales.
160	M.	20	Indurated sore, destroying frænum.	No.	Took 2 pills a-day for 3 weeks, and 1 pill a-day 5 weeks more. At work out of doors while taking mercury.	3 weeks.	Yes.	2 months.	4 months.	Circular red eruption; skin mottled; elevated circular patches in palms of hands; sore throat.
161	M.	46	Almond-shaped sore on skin of penis; another sore on left lip of the urethra.	In right groin.	Rubbed in a fort. night.	10 weeks.	Yes.	13 weeks.	6 months.	Livid copper coloured spots on body, with tendency to ulcerate in the centre; tubercles on face. Had been very badly fed previous to appearance of eruption.
162	M.	27	Several sores on penis; one destroying the lips of the urethra, leaving some induration.	No.	Three or four pills only.	For sec. affection.	No.	1 month.	3 months.	Eruption of clustered papulæ on shoulders, arms, legs, and face.
163	M.	22	Sore, with much circumscribed induration.	Slight.	For secondary affection.	..	..	2 months.	1 month.	Faint tubercular eruption on back, arms, face, and body.
164	M.	22	Sore behind corona glandis, leaving induration.	Yes.	Irregularly, at different times	For primary affection.	Once slightly.	1 month.	3 months.	Clustered papulæ of very livid colour, forming distinct patches on back, and elsewhere; some inclined to desquamate.
165	M.	18	Sore, destroying frænum, and leaving induration.	No.	None.	..	..	9 days.	2 months.	Mottled skin, caused by prominent papillæ, which are redder than natural.
166	M.	23	Superficial sore on prepuce, healing without induration, but leaving a glazed appearance.	Isolated gland for 4 months.	None for primary affection.	..	..	3 or 4 weeks.	2 months.	Mottled skin from prominent papillæ; circular patches of scaly eruption, with healthy skin in centre; vascularity of throat; red spots on palms of hands, without elevation of the cuticle.

TABLE II, GIVING A STATISTICAL ANALYSIS OF THE 166 CASES OBSERVED.

	Bubo.	No bubo.	No record of existence of bubo.	Papular eruption.	Pustular eruption.	Scaly eruption.	Tubercular eruption.	Copper-coloured blotches.	Ulcerated throat.	Throat affected, but not mentioned as ulcerated.	No history of primary ulcer.	Ulcer with characteristic induration.	Ulcer not characterized.
In the 166 cases, recorded in Table I, there were.....	78	55	33	44	15	60	30	19	63	17	20	67	79
Or per cent.....	47	33·1	19·8	26·5	9	36	18	11·4	32	10·2	12	40·3	47·5
In 31 of these cases, occurring in males, where the primary sore presented a characteristic induration and was treated by mercury	19	11	1	7	4	11	6	4	14	5	..	..	..
Or per cent.....	61	35	3·	22·5	12·8	35	19	12·8	4·5	16	..	..	..
In 17 of these cases, occurring in males, where the primary sore presented characteristic induration, treated without mercury	7	9	1	8	2	5	2	2	5	2	..	..	..
Or per cent.....	41	53	5·9	47	11·7	29	11·7	11·7	29	11·7	..	..	..
In 21 of these cases, occurring in men, where the primary sore is not recorded as indurated, but was treated with mercury	8	5	8	4	3	3	5	4	8	0	..	..	..
Or per cent.....	38	23·8	38	19	14	14	23·8	19	38	0	..	..	..
In 19 of these cases, where the primary sore is not recorded as indurated, and was treated without mercury	10	5	4	3	1	10	1	1	10	2	..	..	..
Or per cent.....	52·6	26	21	15·7	5	52·6	5	5	52·6	10·5	..	..	..
Thus, in 48 cases, in male patients, presenting characteristic induration, there were	26	20	2	15	6	16	8	6	19	7	..	..	..
Or per cent.....	54	41·6	4	31	12·5	33·3	16·6	12 5	39·5	14·5	..	..	..
In 40 cases, where no induration was noticed	18	10	12	7	4	13	6	5	18	2	..	..	..
Or per cent.....	45	25	30	17·5	10	32·5	15	12·5	45	5	..	..	..
In 52 cases, where the primary sore was treated with mercury	27	16	9	11	7	14	11	8	22	5	..	..	..
Or per cent	51·9	30·7	17·3	21	13·4	26·9	21	15·3	42·3	9·6	..	..	..
In 36 cases, where the primary sore was treated without mercury	17	14	5	11	3	15	3	3	15	4	..	..	..
Or per cent.....	47·2	38·8	13·8	30·5	8·3	41·6	8·3	8·3	41·6	11·1	..	..	..

London, 12, Dover-street, August 1849.

ON COMPOUND FRACTURE OF THE CRANIUM, WITH DEPRESSION.

By JOHN CHARLES HALL, M.D., Fellow of the Royal College of Physicians of Edinburgh, Member of the Royal College of Surgeons of England, etc.

(Concluded from page 709 of last Number.)

Case x. In that colony of filth and wretchedness, Kensington-buildings, the inhabitants of which have, for the most part, migrated from Ireland, a policeman informed me a fight had taken place, and that a man was very seriously injured. On hastening to the place, I found a man lying in a senseless condition upon the floor of a dirty room; and on examining his head, a contused and ragged wound in the scalp, leading down to a fracture of the parietal bone, with depression, presented itself. The injuries appeared very severe, the wretch who had inflicted them having repeatedly jumped upon the head of his victim with his heavy nailed boots. The hair was shaved from the side of the head on which the injury had been sustained, the wound carefully brought together, and the man laid upon his wretched bed on the floor. Whilst I was debating what ought next to be done, and considering the propriety of sending for a surgeon, that the trephine might be used, as the man still continued insensible, he exhibited signs of returning consciousness, and began to turn about on his bed; he slowly opened his eyes, looked round the room, and then was violently sick. He next asked, if the man who had injured him had been taken to the station-house. He was bled to eight ounces the same evening, and a poultice applied to his head, for the state of the scalp rendered it vain to look for union by the first intention; the treatment afterwards consisted in keeping the bowels well opened. Notwithstanding the age of the patient (46), the great depression of the bone, the frightful contusion of the integuments, and a constitution broken up by bad food and the worst kinds of intemperance (added to which, he was living in a room unfitted for the abode of a pig), this man recovered without a bad symptom.

[It may not be foreign to our subject, to pause a moment to remark how great are our disadvantages in treating patients in such abodes, and how great the evils of defective sewerage and of ill-ventilated dwellings to all classes of the community. In London, to which the operations of a recent Act are not applied, these abominations are, even at this moment, exerting their poisonous influences; and what I predicted[1] some years ago, has been fully confirmed by the localities in which malignant cholera has been the most fatal in its effects during the present visitation. Any one passing along the magnificent streets of the great metropolis, on either side of which are shops filled with every thing that can please the eye and administer to the luxuries of life, as well as to its necessities; any one looking on the moving mass of youth, beauty, rank, and fashion, by which they are crowded,—may fancy himself in some fairy-land; some land in which disease is never seen, and

[1] On the Necessity of Removing those Causes which Increase the Bills of Mortality. By J. C. Hall, M.D.; also, Letters to *The Times*, on the Causes Productive of Cholera. By J. C. Hall, M.D.

from which want, and sickness, and sorrow, have long been banished. Would that I could carry the young, the rich, the thoughtless, to some eminence, for one brief hour, and unroof some of the misery of which they know nothing! What would they then see within a few yards of that great highway—that stream of wealth and fashion? The abodes of poverty, disease, and death. These houses are unknown, save to the medical practitioner, the parish surgeon, the missionary of the Home Society, or the collectors of the pence men pay for living, or rather dying, in those miserable habitations. There, sources of fever and of cholera, though unnoticed by the rich and great, too surely exist. The rooms are never cleansed—the nature of their floors is concealed by layers of filth, often the accumulation of years; they are never lighted by the sun-beams; nor are they ever purified by a current of fresh air—for that which enters them is tainted by the heaps of decomposing animal and vegetable matters which surround such houses, "stealing and giving odours". And yet, into such dens, from which the majority of the beasts of the field would fly, families consisting of ten or twelve human beings are crammed, and there perform all the domestic duties. Men, women, and children, there herd together; eat, drink, sleep, wash, dress, and undress, before each other; it is in such places that all ideas of decency, virtue, and morality, are broken down; that crime is generated, brought forth, and nurtured. There, too, the babe comes into the world without a blessing; and the old, grey-headed man passes from it without a hope. In such places, fever, which extends to the more favoured homes of the rich, is first engendered; for whilst the evil is unchecked, it is increasing. It is foolish to suppose, because the poor are the first victims, that the rich and noble do not suffer in their turn. Yes, it is in such places as these,—the intolerable filth and disgusting odours of which are unknown and inconceivable, except by those whom duty or humanity causes to visit them,—that the fatal seeds of diseases are sown, the fruits of which are most fearful to every class in this great kingdom. Can it be surprising, that in such lanes and back-courts, within a few yards of those noble streets adorned by splendid houses, and crowded with a living mass of beings possessed of all that riches can procure, fever and crime at present exist? And that this will continue to be the case is certain, until the knowledge of the evils thus occasioned shall have compelled their removal. This, we are told, is the seed-time of improvement; may the harvest be to us and to our children, under God's blessing, most abundant.]

Case xi. R. T. was knocked down by the horses of the Dart coach, in the streets of Kensington. When called to attend him, I found the patient in a house, supported in a chair, and a chemist, lancet in hand, attempting to bleed him; why, I know not, for the man was cold, pale, and pulseless. There was a wound in the scalp, and a fracture, with depression, over the frontal bone. He was put into a warm bed, and warmth applied to his feet; the head was shaved, and the wound carefully closed. It was twenty-four hours before he spoke at all; and for many days he could only articulate "yes" and "no". When reaction came on, he was purged, and cold water applied to his head. It was three days before it was thought necessary to bleed him; eight ounces

were abstracted, which removed a fixed pain in the head. The man perfectly recovered.[1]

Case xii. A Frenchman, æt. 54, was admitted into the Hôtel Dieu, having received a blow upon the frontal bone with a stone, or rough edge of a brickbat. The scalp was much bruised, and a ragged wound in the skin led down to a fracture with depression. The injury had been sustained the day before; but he could not, or would not, give a very clear account of the way in which he had met with the accident. He complained of much soreness in the wounded scalp, which was "*all he cared for*". He was quite sensible; and there were no symptoms indicative of pressure upon the brain. Much against his inclination, he was bled, kept upon a low diet, and an aperient given every morning. When I left Paris the wound had healed; and in a day or two I doubt not the man was in a condition to return to his ordinary occupation.

Case xiii. A girl about fourteen years of age came under my care for a fracture, *with depression*, extending from the temporal to the right parietal bone, with a contused wound of the scalp. As there were no symptoms denoting pressure upon the brain, in accordance with the practice I have for many years followed, the girl was sent to bed, the room darkened, the head shaved, and kept cold with an evaporating lotion, the wound having first been very carefully brought together. It was afterwards requisite to take away a small quantity of blood, and to administer several brisk purgatives. She perfectly recovered; a depression still remaining over the fracture, which could easily be detected.

Case xiv. —— was admitted into St. George's Hospital with compound fracture of the skull, with depression. The man walked to the hospital, and was perfectly sensible. Notwithstanding the absence of any symptoms, it was thought right to prevent any arising, by using the trephine. The operation was very carefully and ably performed by a gentleman, then one of the surgeons to that hospital, and the depressed portion of bone raised. The man went on remarkably well for two or three days; he then had shivering fits, complained of great pain at the angle of the jaw, over the region of the loins, and in the knee-joint. He became jaundiced, and died. Secondary deposits of matter were found in several parts of the body.[2]

When I began my studies at St. George's Hospital, as the pupil of Sir B. C. Brodie, amongst a good deal of valuable advice dealt out in those short, pithy sentences for which he was so remarkable, and which were calculated to produce a lasting impression on the minds of his pupils, was a recommendation "*not to overlook the cut fingers, ulcerated legs, and broken heads*". Following this advice, and carefully observing cases of compound fracture of the bones of the head with depression, and the treatment adopted both in and out of the hospital, I very soon found that many cases died in which the trephine was applied, and that many recovered in which this operation was not performed; and it will be remembered by many of my old friends and fellow-students,

[1] Mr. R. J. Pollock saw this case with me.

[2] I have given only a brief outline of this case, as I intend, on a future occasion, to enter into the consideration of secondary deposits of matter after injuries and operations. I will then transcribe the whole of this case from my note-book.

that, many years ago I ventured *to question the propriety of using the trephine in any case of compound fracture of the cranium, with depression, in the absence of symptoms denoting pressure on the brain.* This opinion was then regarded as a sort of presumptuous medical heterodoxy; and in the animated debate which took place at the Medical Society of the hospital, on the subject, with the exception of my old teacher and friend, Mr. Lane, there was hardly a student or a surgeon but insisted that the operation ought to be performed in all cases of this nature, whether symptoms were or were not present. Many cases which have since that time been published, and many others which have now been under my own care, and which I have seen under the care of others, during an active professional life, have convinced me fully, that many persons recover after their skulls have been fractured and a portion of bone depressed, without its having been elevated, even when a wound in the hairy scalp communicates with the fracture, and that the danger is much increased by the operation of trephining. The degree of pressure the brain can sustain, doubtless varies in different individuals: in some, slight pressure produces very great inconvenience; in others, the greatest depression is observed to occasion little or no uneasiness. It will also, in every case, be very necessary carefully to distinguish between the symptoms produced by concussion, and those depending on compression of the brain. This can, in most cases, easily be done, if some little time be allowed for the stupefaction, which a violent blow upon the head is certain to occasion, to pass away; and, as the effects of concussion gradually abate, a very little delay will enable the surgeon to ascertain correctly the precise nature of the injury, and to act accordingly.

After compound fracture of the skull, with depression, where the patient retains his faculties, all I have found necessary, is to order the wound to be very carefully closed. The hair should first be shaved off from the whole of that side of the head on which the blow was received, the wound washed, and if any splinters of bone be seen at the bottom of it, they ought to be removed, and then the edges must be gently and carefully brought together, care being taken to exclude every particle of air. The edges must be kept together by adhesive plaster, and supported by a proper bandage; cold water, an evaporating lotion, or ice, should be applied to the head. Rest, confinement to bed, purgatives with calomel, local and general bleeding, if required, and the strictest attention to diet, which should be the fever-diet of our hospitals, will of course be requisite; and any excitement, or any excess either in eating or drinking, must, for months after any injury of the bones of the head, be most carefully avoided.

If, after injuries of this nature, the patient remain in a state of torpor, the trephine must be used, and the depressed portion of bone raised; but, in the absence of symptoms of compression, this operation, in my opinion, ought never to be performed. That the elevation of the depressed portion of bone would be very advantageous and highly desirable in every case, there can be no doubt, if the operation were in itself unattended by danger; but let it be performed on twenty men in a state of health, and how many would survive the infliction? And I will here repeat an observation I ventured to make, six or seven years ago, in

the *London Medical Gazette*, when speaking of compound fractures of the skull and their treatment: *If the operation of trephining were in itself unattended with danger, that would be an unanswerable argument for its employment in all cases of compound fracture of the bones of the head, with depression; but this, unfortunately, is not the case.*[1] And more recently, I have had the pleasure of seeing this opinion confirmed, and in nearly the same words, by no less an authority than my old friend, Mr. Guthrie,[2] who remarks, "that if the operation by the trephine, or that of sawing out a piece of bone from the head, were not in itself dangerous, there could be no hesitation about its use; *but it is a* DANGEROUS OPERATION."

Injuries of the head affecting the brain are highly important, both from the danger by which they are always accompanied, and the frequency of their occurrence. That the ancients trephined far too often is certain; while some surgeons, perhaps, in the present day, from witnessing the mortality by which the operation is attended, fall into the other extreme. The cases above mentioned as under my more immediate care, prove clearly that it would have been useless to have resorted to the operation in any of them, for they all recovered, which would in all probability not have been the case had the operation of trephining been resorted to: and they also go, in common with the numerous interesting recoveries which have been placed before the profession by Abernethy, Bell, Lawrence, Hill, Latta, Desault, Guthrie, and other eminent practitioners, to prove that the brain will bear a considerable degree of depression without injury; and when no symptoms denoting mischief are present, the employment of the trephine appears to me the most likely means of producing them.

After fracture of the bones of the head, it will be, as we have already observed, very desirable to direct our inquiries with the view of ascertaining whether the patient have continued in a state of insensibility from the moment of the accident; because there is, should this prove to be the case, reason for hoping that the symptoms are the result of concussion only. In the case of the little boy, Lee, though stunned by the blow, the brain gradually recovered its proper functions. Mr. P. (case VI, recorded in the last number of this Journal, p. 707,) remained insensible for a considerable time, until the side of his head was half scalped by the knife of the surgeon; and yet he regained his senses in time to prevent the completion of the operation, and lived for many years after the injury had been received. The effects of the shock the brain has received at the moment the fracture is produced, will gradually diminish, and, after a time, cease altogether. If, immediately after a fall or blow, by which the bones of the head are fractured, the man gets up and walks away, it is very clear the brain cannot have suffered from concussion; still, such a patient requires to be very carefully watched. The same man, in an hour (it may be more), often becomes drowsy, next, insensible—the alarming symptoms, which denote compression of

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[1] Vide also Remarks on the Nature and Treatment of some of the more Important Diseases. By J. C. Hall, M.D. Second edition, pp. 158, 159.

[2] On Injuries of the Head. By G. J. Guthrie, F.R.S. p. 105.

the brain, having now supervened. There are cases, also, in which we find exhibited the combined effects of concussion and compression.

In many cases of concussion of the brain, I have witnessed the evil effects produced by the repeated abstraction of large quantities of blood. For example: a man falls from the top of a house, and fractures his skull; he is carried to bed in a state of insensibility, with coldness of the extremities, and a feeble pulse. By and bye he rallies, as was seen to be the result in cases x and xi; the pulse rises a little, and sensibility is partially restored; blood is taken away immediately; the pulse rises again after a few hours, and becomes a little fuller; more blood is taken away. And this practice is again and again repeated, until the patient sinks at once, or recovers only to be for weeks, months,—it may be, for the remainder of his life,—nervous and enfeebled. This opinion may not coincide with that of every medical practitioner; but repeated observation has led me to the conclusion, that concussion of the brain acts upon the system in nearly the same way as syncope, arising from pain, grief, irritation, or any other cause; and in the treatment of which, blood-letting would be the last remedy thought of.

"Immediate dissolution, like syncope, properly depends upon an affection of the brain, by the loss of a large quantity of blood, or even of a very small quantity in a constitution enfeebled by disease." And if this opinion of Dr. Marshall Hall be correct,—and there can be no doubt of it,—the reason why the abstraction of even a small quantity of blood, at such a moment, may be productive of the most fatal consequences, will be evident; for the energies of the brain are considerably weakened, and its functions in part suspended, by the infliction of the blow upon the head.

Sir B. C. Brodie has pointed out, that, in some cases of concussion, death results from "some alteration or suspension of the action of the heart"; and we all are aware that sudden and violent impressions on the nervous centres, even though these do not occasion any perceptible breach of substance, frequently suspend, or altogether annihilate, the movements of the heart. Thus, in concussion of the brain, not only is there insensibility, but also a more or less complete suspension of the circulation, arising from failure of the power of the heart. This condition may be permanent, so that animation cannot be restored; or it may be temporary, as in an ordinary "fainting fit," as it is commonly called. Cases of sudden death after violent blows upon the epigastrium, are very far from being uncommon; and the cause is probably the same, namely, from the shock being communicated to the extensive plexus of ganglionic nerves, radiating from the semilunar ganglia, and proceeding to the abdominal viscera. The contractile power of the heart may also be weakened to a dangerous extent, by other violent impressions on the nervous expansions: for example, very extensive burns in children frequently produce fainting, and even death, by the depression which they induce.

We are quite at a loss to account for the way in which a man, who five minutes before was in the possession of health and strength, and quite capable of bearing the evacuation of a large quantity of blood, becomes, by a blow upon the head, which does not even fracture the bone, unable to sustain the loss of one wine-glassful; and yet every one who has

taken the trouble to reflect on the cases of this nature which have come under his care, will be prepared to admit that such is the fact. It would be easy to enumerate numerous other causes of sudden suspension of the action of the heart; but they may all be traced to a violent shock to the nervous system, though we have yet to learn the exact manner in which these effects are produced. As yet, we know nothing! When the blow producing a fracture of the skull has been very violent, the patient, at first, lies quite motionless, the pulse is hardly to be felt, and the respiration almost annihilated. "He was taken up for dead", says the witness before the coroner, "a surgeon was sent for, who bled him, but he could not get much, only about a tea-cupful, and the man died soon after"—verdict, "*Accidental Death*"; nor does a month pass without a newspaper supplying some such information, and adding—"everything was done that medical skill could suggest"; and yet that very tea-cupful of blood may have held the balance of the scales in favour of life; for I have seen cases, even where bleeding has not been resorted to, and in the which partial reaction had taken place, but nature has appeared unequal to the effort, and life, like the flame of an expiring candle, after burning brightly for a moment, has gradually passed away. Would not "*Died from Bleeding*" have been a more correct verdict?

There is another practice equally common, and equally deserving of censure. I allude to giving brandy and water immediately after injuries to the bones of the head. At the moment after concussion of the brain, when all the powers of life are depressed, stimulants can never be employed with advantage; and when slight reaction has come on, the practice becomes very much more pernicious and indefensible. The fact that the heart and brain have sufficiently rallied from the shock to carry on the animal functions, proves that the administration of wine and brandy cannot possibly be required; and the making an unfortunate fellow-creature swallow brandy and water when in this condition, appears very likely to destroy life, even should he not be killed in the act of swallowing. It frequently happens, that some small vessel within the cranium is ruptured at the moment of the accident; and that condition of the system on which the feeble action of the heart depends, is calculated to prevent the ruptured vessel from pouring out its contents, and the longer this state continues, the less will be the danger of compression of the brain. At first, we can do little more in these cases than very carefully to watch the state of the circulation; and when reaction has fairly set in, blood must be taken away in sufficient quantity to prevent that immoderate hardness and frequency which the pulse has a tendency to assume after these accidents, when the first shock to the system begins to abate. But the plan of giving brandy to patients when in a state of insensibility, by which they may be choked, and of taking away blood the moment a pulsation is felt at the wrist, is yet far too common.

In cases of compound fracture of the cranium, in which, from the symptoms of pressure upon the brain, it is necessary to trephine, the proper period for performing the operation is a question of importance, and one on which, unfortunately, there is a difference of opinion. Mr. Guthrie thinks there is less danger on the first day; Sir P. Crampton

and Mr. Colles, that the operation on the first day only increases the irritation of the already severely injured parts. The case of the nephew of Lord Brougham, related by Mr. Crampton, bears upon this point, and proves that even fragments may be driven into the substance of the brain, without their immediate abstraction being required or warranted. I should most certainly advise the immediate removal of the splintered portions as a general rule, which will not be without exceptions; for in this case, the moment Mr. Crampton touched a large portion of bone with the intention of removing it (for the fragment was driven into the brain), the body became convulsed, and the unfortunate young gentleman moaned deeply; all further efforts were consequently desisted from; the case was left to nature, strict antiphlogistic measures being resorted to. At the end of twenty-two days the pieces of bone were discharged by the process of nature. The late Mr. S. Cooper has remarked, that "where the depressed portion of a bone is denuded by a wound in the scalp, a trial to raise it with the elevator *may* sometimes be proper, even though urgent symptoms of pressure do not exist; in such cases Sir A. P. Cooper sanctions the use of the trephine, but my own experience and observations would induce me to abstain from the operation."

The symptoms after accidents of this nature appear to vary, in some degree, according to the locality of the fracture; the upper part of the brain often bearing from the first a great deal of pressure with impunity, or becoming accustomed to it. It was the opinion of the late Mr. Liston, that in *punctured fractures* of the skull the trephine ought to be used in all cases, for "the presence of numerous sharp spiculæ from the internal table, for even a short period, is frequently followed by intense inflammatory action, propagated to the brain and its more immediate investments." The case of Ridley, Earl Spencer's groom,[1] the boy Lee, the woman struck by a brass candlestick, and the boy kicked by a horse in Smithfield (the two latter cases are related in the work of the late Mr. Abernethy), show, however, that in many cases of punctured fracture, the operation is not required. There is one symptom to which I would direct attention, which I have observed in two cases, both fatal, and which should always lead to an unfavourable prognosis—namely, a watery discharge from the ear, which, in all probability, comes from the sac of the arachnoid membrane, and is indicative of great danger. In such cases the direction of the fracture is towards the body of the sphenoid and over the petrous portion of the temporal bone.

Case xv. December 1844. I was requested to ride over to Everton, with as little delay as possible, to visit Henry Barker, æt. 45. He follows the occupation of an engineer, and is a remarkably tall and powerful man. His habits are temperate; he is married, and the father of a numerous family. It appeared, that in doing something at the engine, his head had that morning been drawn into the machinery, and had become completely wedged between two pieces of iron, one of which had entered the back part of his head, tearing the scalp from the bone for more than four inches. There was a fracture, with considerable depression, which could be both seen and felt; it was more than two inches square, and that portion of the occipital bone was quite

[1] Case v, p. 706.

driven below the other parts of the skull. He was dull and stupid, but I learnt from a gentleman who had seen him from the first, that he was more collected than he had been an hour before; and that he seemed to be gradually regaining his senses. He was cold, and covered with a damp sweat, with a very feeble pulse, which could hardly be felt at the wrist. The edges of the wound were carefully brought together, and the patient kept in bed, the room darkened, and strict quietude enjoined. In the evening he complained of pain in the head and scalp. On shaving the head,—which I did not consider it prudent to permit in the morning, from the very weak state in which I found him,—the whole of the scalp on the posterior part of the head appeared much bruised and discoloured; thirty leeches were applied, and a bladder filled with ice and salt was suspended over the head. Ten grains of calomel to be taken at bed time, and an aperient draught the next morning. The next day it was necessary to direct twenty ounces of blood to be taken away, and three grains of calomel to be taken every four hours. The next day it was also necessary to take more blood; and two days afterwards he was again bled. The quantity of blood this man lost was enormous. He perfectly recovered; and to this large abstraction of blood, and the free exhibition of calomel, he undoubtedly owed his life. It will be quite impossible to lay down any rule, as to the employment of the lancet so as to suit every case: but it is well in the first instance to take only a small quantity of blood, and the quantity must be increased as urgent symptoms present themselves.

Some are in the habit of combining calomel with opium after injuries of the head,—a practice, to say the least of it, of questionable utility, except in those cases of mania which sometimes follow injuries of the head; it is then, if properly administered, undoubtedly useful, particularly if combined with small doses of emetic tartar in solution. When inflammation of the brain and its membranes have continued for some time, after the free use of the lancet, and the administration of calomel, I have often seen the application of a blister to the scalp, which should be dressed with mercurial ointment, afford considerable relief.

In conclusion, it is but fair to admit, that in the majority of the favourable cases of compound fracture of the cranium with depression, recorded by authors, in which recovery has taken place without using the trephine, the patients have been young; this has not, however, been the fact in the patients coming more particularly under my own observation. Having written to record facts, rather than to establish any theory of my own, it remains only to add my conviction, that in Compound Fracture of the Cranium with Depression, in the absence of symptoms of pressure on the brain, the dangerous operation of trephining is altogether uncalled for and unnecessary; and, in all cases, so hazardous an operation ought never to be resorted to without the most urgent necessity. "Gravis tamen satis est operatio, et nunquam nisi indicationes adsint institui debet."

Sheffield, August 1849.

DESCRIPTION OF A GALVANIC APPARATUS FOR APPLYING CHLORIDE OF ZINC AS A COUNTER-IRRITANT: WITH CASES ILLUSTRATING ITS USE.

By THOMAS SMITH, M.D., formerly Physician to the Leeds Public Dispensary, and to the Cheltenham General Hospital and Dispensary.

Electricity and Galvanism having of late years occupied a prominent position in the treatment of several diseases, the following observations on the utility of Galvanism will, I trust, be found interesting. For the last two or three years, I have been in the habit of using Galvanism as a counter-irritant, finding it less painful than the usual modes, such as moxas, setons, issues, etc. The following is a description of the apparatus I employ, and of my method of using it.

A piece of perforated zinc is fastened or riveted to a piece of platinized silver, or, what will do equally as well, and which I generally use, a sixpence, shilling, or half-crown, according to the size required. The apparatus thus prepared is to be applied with the zinc surface next to the body, the silver being uppermost; over this I place a piece of spongio-piline, previously moistened in salt and water, and retain the whole in close apposition to the skin by means of a few strips of adhesive plaster. At the expiration of every twelve hours, the battery should be removed and washed in salt and water, and then re-applied as before. At the end of twelve days, a deep white eschar is formed, from the action of the chloride of zinc. This may easily be detached, or allowed to slough out of itself, which generally happens about the fifteenth day, leaving a healthy-looking sore. By reversing the galvanic apparatus, that is, applying the silvered surface to the wound, it will be found to heal up quickly; or it may be made to keep up a continuous discharge, by introducing split peas into the opening, or by dressing it night and morning with savine cerate. Where, however, time is an object, and it is desirable quickly to induce counter-irritation, this may easily and speedily be effected by first removing the cuticle either by means of liquor ammoniæ fortissimus, or of acetum cantharidis, and then applying the battery to the denuded surface, and afterwards proceeding as in the former case. In this manner, the same effects are produced in from four to six days, as would require twelve days by the other method. If the latter plan be adopted, it is not uncommon for the patient to complain of a gnawing pain in the part towards the evening of the third day, which, if not relieved, makes him restless and uncomfortable; a mild opiate, administered at bedtime, has generally had the effect of soothing the irritation, and preventing its future occurrence. In delicate females, where it is desirable not to create more pain than is absolutely necessary for the induction of counter-irritation, the first plan is decidedly preferable. I have observed, on three occasions, where the idiosyncracy of the patient had previously rendered the exhibition of opium or its preparations inadmissible, that during the action of the battery they have produced the most tranquillizing effects. Acting upon this inference, would it not be well in such constitutions as are known to be susceptible to injurious impressions from a dose of any opiate, previously to irritate the cuticular surface by

Electricity or Galvanism? I subjoin a few cases illustrative of the efficacy of this mode of treating disease, in conjunction with other general treatment.

Case I. In the autumn of 1847, I was consulted by a gentleman labouring under the more prominent symptoms of phthisis pulmonalis. He had already been subjected to a pretty active course of general treatment, among which repeated blisters, expectorants, cod-liver oil, iodine and its compounds, had formed a prominent part. After trying a variety of the more useful adjuvants in such cases without deriving much benefit, I recommended an issue. My patient objecting to the use of caustic, of which he had formerly had experience, I substituted a couple of batteries, made with a shilling and a piece of perforated zinc, and applied one under each clavicle. As soon as the eschar was removed, the wound was dressed occasionally with savine ointment for about two months. The batteries were then again applied to another part of the chest, in a line with the clavicles, and the old sores allowed to heal up. This process was continued for the space of fifteen months. He was ordered light nourishing food, to avoid all hot diluents and sloppy dishes, to drink moderately of malt liquor, and to exercise himself freely when the weather was favourable. To relieve the distressing cough, which occasioned racking pains and restless nights, I prescribed inhalation of the vapour of the water-hemlock seeds, made in the proportion of one drachm of the bruised seeds to half a pint of boiling water, with half a drachm of chloric ether, and the same quantity of tincture of squills. As tonics, he took occasionally preparations of iron, quinine, calumba, with bicarbonate of potash, and spirits of turpentine. When I last saw him he had regained his healthy looks. His cough had entirely left him; morning expectoration of a mucous character alone remained; the appetite had improved; and the perspirations had ceased. He had, within the last six months, gained fourteen pounds in weight. This I regard as a very favourable indication, though one on which too much reliance ought not to be placed. A slight dulness still remained on the inner third of the left clavicular region, together with increased expiratory murmur. These symptoms, I am in hopes, will ultimately yield; at present, the case wears a favourable aspect.

Case II. A lady, aged 38, the mother of six children, tall, of spare habit, and sallow complexion, applied to me in November last, respecting an affection under which she had been labouring for some months, and which had latterly increased considerably in severity. Her principal symptoms were, pains and giddiness in the head, excessive appetite, almost amounting to bulimia, and when in the horizontal position, throbbing of the carotids and temporal arteries to an extremely uncomfortable degree. Heart's action, 80 in the minute—strong, but not immoderately so; no abnormal bruit; radial pulsation regular, easily compressible, synchronous with heart's action, but weak and small, as compared with the pulsation in the carotids. Mouth frequently clammy; breath of an unpleasant odour; tongue furred in the morning, gradually becoming clean as the day advanced, eyes clear; breathing short and easily accelerated, 22 when quiet, but rapidly increased by motion to 30 and upwards, without a corresponding increase

of the arterial circulation; frequent sighing; countenance at one time deadly pale, and at another very much flushed; sensation of cold water running down the back; occasional tremors; coldness of the feet, and blueness of the extremities; hands very subject to chilblains in cold or frosty weather; skin mostly cold, harsh to the touch, rarely perspiring; urine scanty, showing a copious deposit of the yellow lithates, with an occasional iridescent pellicle; pain in the loins; has been troubled with leucorrhœa and hæmorrhoids; bowels very costive, rarely acting without medicine; fæces cylindrical, variable in colour and consistence, some parts very dark,others clay-coloured; great disinclination to muscular exertion; tottering in the gait; difficult progression; frequent attacks of hysteria. The treatment previous to my seeing her, had, for the most part, consisted of such medicines as were thought best adapted for dyspepsia, and for the relief of the more prominent hysterical symptoms. My impression being, that there was something wrong in the spinal column, I endeavoured to satisfy myself where the latent mischief lay. Percussion along the spinal tract, and hot water applied with a sponge, afforded no positive indication. The tenderness complained of on smart percussion was as evident in other parts of the body, if attention were earnestly called to it. Electro-Galvanism I had so often found useful in assisting my diagnosis in similar cases, that I determined to make trial of it; but not having a machine by me at the moment, and the lady being too ill to attend at my house, and expressing also a great dislike to the contemplated operation, I was compelled reluctantly to defer it to a future occasion. In the meantime, I contented myself with prescribing mild aperients to regulate the bowels, and turpentine rubefacients to be applied to the back. Perceiving little benefit to result from these remedies, and not feeling justified in adopting a more active line of practice until I had obtained more definite information as to the condition of the spinal marrow, I again urged the propriety of allowing me to examine it by means of Electro-Galvanism. This time she consented.

With one hand she held one of the brass tubes of the battery, whilst I, to divert her attention, passed the other rapidly and frequently over the chest and sides of the body. The usual starts witnessed on similar occasions were only apparent; but on suddenly running the rubber, without previous warning, from the nape of the neck down the spine, the moment I reached about the fourth dorsal vertebræ, she suddenly fell forward, and complained of a dreadful sensation in the pit of the stomach. This experiment was repeated with the like result. It is one which I have always considered as pathognomic of spinal irritation, when applied to that particular region of the spine. In myelitis, or meningo-myelitis, intense burning heat is generally experienced, and an involuntary shriek not unfrequently ensues. I have never been able to trace any injurious effects farther than the temporary ones above alluded to, from the employment of Electro-Galvanism in the detection of these diseases. Rough or prolonged manipulation might, and no doubt would, exasperate the latter malady; but I have seen so much benefit from Electricity and Galvanism in the former affection, that I do not hesitate to resort to it whenever I am in doubt as to the true nature and exact locality of the disorder. With the clue thus afforded to my

patient's complaint, I at once resolved to apply two galvanic batteries of the size of a shilling each, above the seat of mischief, immediately over the spine, in the manner advised in the former case. The aperients were continued, and Donovan's syrup of bark in half-drachm doses, with five minims of dilute hydrocyanic acid, P. L. 1836, was prescribed to be taken twice daily. On the seventh night she complained of a good deal of pain in the back. To take morphiæ hydrochlor. gr. ss. at bed-time. In the morning had passed a good night. Eschars forming, covered with a white powder. In twelve days they separated, and were then dressed with savine ointment.

From this day my patient became rapidly convalescent, and in a few weeks returned home quite well.

I could easily multiply cases of the good effects of counter-irritation judiciously applied. I do not attach much importance to the galvanic action produced by the apparatus, but merely recommend it as being an excellent substitute where the more formidable remedies, such as potassa fusa, moxæ, or the potential cautery, may be objected to on account of the suffering they entail, and which in some constitutions is an insuperable bar to their use.

Cheltenham, August 1849.

CONTRIBUTIONS TO THE PATHOLOGY AND TREATMENT OF CHOLERA.

By JAMES BIRD, A.M., M D., formerly Surgeon of the European General Hospital at Bombay, and late Physician-General, Bombay Army.

(Continued from last Number, page 724.

III. PARTICULAR SYMPTOMS ORIGINATING IN THE PERVERTED FUNCTION OF INDIVIDUAL ORGANS.

Gastro-enteric Discharges. In fever and common Cholera Morbus of the autumnal months, the discharges from the stomach and bowels consist of vitiated secretions of the abdominal viscera; but in the disease known under the name of *Asiatic Cholera*, running into the asphyxial form, the several gastro-enteric secretions are suspended, though there be copious intestinal discharges, consisting, according to the best chemical examination, of effused *blood plasma*, exuding from the capillaries after normal secretion has ceased. The occurrence of these discharges, which bear, as I have said, no relative ratio to the severity of the other symptoms, seems, however, secondary to the blood lesion, from which those abnormal changes in the respiratory, circulating, and nervous systems, which constitute the phenomena of Cholera, derive their origin. The vomiting was not so constant a symptom in the first stage of the disease as was the diarrhœa, but generally appeared with the development of the second stage. Both have been considered, by some observers, as curative efforts of the system, to relieve the congestion of the abdominal venous capillaries; but this opinion is irreconcilable with the beneficial therapeutic effect of astringents, in combination with medicines that allay irritation, to restrain the excessive intestinal exhalation

of Cholera fluid, containing, as Dr. Parkes and others have ascertained,[1] an abundance of alkaline chlorides, phosphates, and sulphates, and a certain proportion of albumen, along with masses of flocculent matter, considered by Andral to be *modified mucus*, but viewed by Parkes as *modified fibrine*, like what is exuded in the low organization taking place in the follicular deposit of typhoid fever. Masses of this exudation block up the biliary duct, and render viscid the biliary secretion, which is obstructed in its course, but is not altogether suspended. Boehm, who first completed the microscopic examination of these *cholera masses*, referred them all to changes in the epithelial coat,—an opinion which Dr. Parkes satisfactorily shows to be erroneous, there being no proof of the separation of the epithelium until after the death of the patient. *The stools contain a quantity not more considerable than is present in common diarrhœa, if even so much.* It is therefore evident, that the normal *gastro-enteric* secretion is suspended, and that the fluids exuding from the stomach and bowels contain portions of the blood constituents, some of which appear to be rather *altered* in *quality* than *increased* in *quantity*. The relation of these phenomena to the physical condition of the blood and its component elements, is an important link of investigation in the chain of effects, which binds together the progressive phenomena of Cholera; and though much has been already done, yet much remains to be effected by future investigators, to account for discrepancies of result, and establish the truth.

Physical and Chemical Condition of the Blood. In the epidemics of 1818 and 1819, both Europeans and Asiatics were generally bled when attacked by Cholera; but, though I frequently opened the temporal artery and jugular veins, in the worst collapsed cases which were then received into hospital, the blood was so viscid, black, and tar-like, that I seldom succeeded in obtaining any considerable quantity even while the patients were in the hot bath. In the earlier periods the blood flowed more freely from the veins of the arm, though it trickled down in a small, feeble stream, the central portion of which had a florid appearance, while the parts on either side were much darker. When left to coagulate, the clot was soft and loose, and its top covered sometimes by a thin, sizy film. The cases in which this film appeared were chiefly of a gastric character, such as some Continental writers denominate *Cholera Sicca*, being accompanied by a slight degree of diarrhœa, but by much burning pain at the præcordia, great irritability of the stomach, sometimes vomiting of watery fluid, intense thirst, a small frequent pulse, and less diminution of animal heat than usually attends the more severe forms of the disease.

The alterations which the blood undergoes in composition are yet more important than its exterior character, in enabling us to judge of the general condition of the system in these attacks. Dr. Garrod's late communication on the Pathological Condition of the Blood in Cholera,[2] contains the results of former investigations, and what we have since learned on the same subject. All these analyses tend to show that the water of the blood is much diminished in quantity, and that there is a corresponding increase of the solid portion, especially of the albumen;

[1] London Journal of Medicine, No. II, for February 1849, pp. 141 and 151.
[2] London Journal of Medicine, No. V, for May 1849, p 409.

that the diminution of its alkaline reaction is not due to the loss of salts, but to the impeded excretion of organic acids constantly formed in the system; that the fibrine undergoes changes of quality rather than of quantity; and that urea, in increased quantities, exists, but that the amount differs considerably in the different stages of the disease; being but small in the intense stage of collapse, increasing during reaction, and in excess when consecutive febrile symptoms occur. The relation of these changes to the ascertained nature of the *gastro-enteric discharges* must be manifest, viz., an increased secretion from the alimentary mucous membrane, of thick, white, mucaginous matter, much resembling pus, but probably consisting of modified fibrine, and generally accompanied by excessive intestinal exhalation of water from the blood, carrying with it a certain amount of salts, and causing the darker colour and more viscid state of the circulating fluid, which thus attains a maximum of specific gravity and tenacity, that render it unfit for healthy secretion and the ordinary vital operations of the system.

It may be necessary here to notice that disorganization of the blood corpuscles, which, according to the microscopic observations of Professor Webb of Calcutta, and of others, has been found existing in Cholera, and has been regarded by them as the cause of that loss of power in the blood which renders it incapable of absorbing oxygen, destroys its normal endosmotic power in the lungs, and gives rise to that paralysis of the pulmonary capillaries from which all the morbid changes observed in Cholera necessarily follow. Some further observations on this head are required to establish, or disprove, the truth of these conclusions; Dr. Gairdner having lately found that the microscopic appearances of the blood presented nothing unusual; and Dr. Garrod having seen only in one case, any abnormal appearance of the blood under the microscope.[1]

Respiration and Circulation. Anxiety at the præcordia, and some degree of embarrassment in the pulmonary circulation, marked by yawning and sighing, seemed to attend the first and second stages; but in the *third* one, and period of full development, the respiration became quick and anxious, as if the lungs were imperfectly filled by the inspired air. Prior to 1839, I made no observations on the sounds of either the respiration, or of the heart; and, such being imperfect, I must here have recourse to Dr. Parkes's excellent and instructive remarks on this subject, the truth of them being established by the pathological anatomy of the disease. Slight dyspnœa, tightness, and oppression, were very usual symptoms in the sixty-nine fatal cases seen by Dr. Parkes. The average number of respirations was sometimes very great at a comparatively early period; the majority breathing from twenty to twenty-eight times in the minute, when first seen. The stethoscopic indications of change in the pulmonary organs connected with these symptoms, were, an evident lessening of the inspiratory murmur, which become shorter and bronchial in character, while the expiratory murmur became more lengthened and audible than usual. In several cases, muco-crepitant, mucous, or sonorous râles, were heard at times in one part or other of the chest.[2] Paralysis of the pulmonary air-cells, from loss of power in the blood to

[1] London Journal of Medicine, vol. i. p. 423.

[2] Researches into the Pathology and Treatment of Asiatic Cholera. By E. A. Parkes, M.D. Lond. p. 67.

become arterialized, and increasing debility in the muscles of the glottis, and those which dilate the chest, by which normal respiration is brought to a close, will account for that *aphonia* which forms so remarkable a feature of some Cholera cases, where the patients cannot speak beyond a whisper.

Synchronous with, if not prior to, these abnormal changes of the respiratory movements, the arterial column of blood was found to be diminished, and the venous circulation proportionately obstructed. The impaired action of the heart was in constant ratio to the smallness, rapidity, or intermission, of the pulse at the wrist, which was generally increased in frequency, and very feeble.

Cyanosis, Diminution of Heat, and Cold Sweats. The blue tint of the skin, which was so general a symptom of the worst forms of the malady, had its origin in that imperfect sanguification by which the unoxygenated arterial blood is conveyed in a nearly venous state to the cutaneous capillaries, as manifested by the livid appearance of the extremities, and particularly the skin covered by the nails of the fingers and toes.

This pathological state of the cutaneous capillaries and their circulating fluid, admitting no longer of the usual union of oxygen and carbon, to maintain the animal heat at its normal standard, is followed by a diminution of it on the surface of the body, and a suspension of the natural sebaceous secretion from the skin, with a corresponding increased exhalation of watery vapour.

Præcordial Pain and Cramps. The painful sense of pressure at the præcordia, and the commencement of cramps, were most generally associated together in cases where the nervous energy was partially depressed, or in those where slight symptoms of reaction appeared. The most usual period of the appearance of these muscular spasms, was towards the end of the second stage, when there were present symptoms of irregular or defective innervation, with distinctly marked indications of venous congestion; but, as nervous irritability decreased, and the powers of life became paralyzed in the progress of the third stage, the cramps altogether ceased. The relation between them and the symptoms of *gastro-enteric* irritation seemed to be most intimate; and their severity was in constant ratio to the irritability of the intestinal mucous surface, and its efforts to expel the scanty flocculent stools which followed the more copious watery purging. These cramps chiefly attacked the superior and inferior extremities, and may be viewed as the result of reflex irritation acting on the cerebro-spinal axis.

IV. POST-MORTEM APPEARANCES AND PATHOLOGICAL ANATOMY.

Two very valuable and interesting memoirs on the anatomico-pathological appearances in Cholera have been lately given to the public: one of these, in the *Monthly Journal*, is by Dr. W. Gairdner, Pathologist to the Royal Infirmary of Edinburgh; the other, by M. Raikem, was communicated to the Belgian Academy of Medicine.[1] In the former, only slight allusion is made to the condition of the lungs and other thoracic viscera; and in the latter, several important points of investigation are but partially noticed. Many and varied opportunities, during the different years of Cholera prevailing in India, having occurred to

[1] For a translation of it, see London Journal of Medicine, August 1849, p. 755.

me for correcting observations, and modifying opinions, on this subject, I shall here give several detailed post-mortem examinations, followed by a summary of pathological changes most usually present in the several modifications of the disease, in the hope that, at no very distant period, I may be enabled to present these in a tabular form, together with a more extended series of necroscopic examinations, collected from various sources.

Illustration i. *Kaira*, 20*th March*, 1820. Peter Collis, an artilleryman, aged about 30 years, was admitted yesterday evening into hospital, in such a state of exhaustion that he could scarcely answer the questions put to him. The men who brought him to hospital, stated that he had been attacked by the disease an hour before admission, and that, during this time, he had been purged eight or nine times, and had passed nothing but water. Stomach irritable, features shrunk and hippocratic, skin cold, pulse frequent and feeble, violent cramps in the muscles of his legs and abdomen. According to the then Indian practice in Cholera, a vein was opened in the patient's arm, and the blood allowed to flow till ten ounces had been abstracted. The pulse became more feeble, and the cramps were not relieved. Twenty grains of calomel, and a draught containing forty drops of tincture of opium, and a drachm of aromatic spirit of ammonia, were then administered. The patient was put to bed, was well covered by blankets, had bottles of hot water applied to his feet and legs, and took, every half hour, a drachm of aromatic confection, with thirty drops of aromatic spirit of ammonia in two ounces of water. The purging and vomiting continued; and when I again saw him, about an hour and a half after his admission, he was pulseless, but had still slight cramps of the muscles. Was put into a very hot bath, which caused a temporary restoration of his pulse; but he continued to sink, and died this morning about 7 A.M., or little more than twelve hours from the time he was first attacked. A necroscopic examination of the body was made about eight hours after death.

General appearance. The skin of his face, neck, and back, was of a deep purple hue; and that of his hands and fingers shrunken and corrugated.

Head and spine. There was more than a normal quantity of blood in the large sinuses of the dura mater; the veins of the pia mater were turgid, red points in the white substance of the brain very numerous, and a considerable amount of fluid effused into the ventricles. On opening the spine, the ligamentous sheath of the *medulla spinalis* appeared distended with fluid; and on slitting it open, a considerable quantity of effused serum escaped.

Thoracæ. The lungs were of a deep purple hue, and emphysematous; the right auricle of the heart much distended by loosely coagulated blood, as were the two venæ cavæ.

Abdomen. The liver was of a deep purple hue generally, and in some places, particularly at its edge, quite black; there were several old adhesions between it and the diaphragm. The gall-bladder was distended by black ropy bile, which did not flow into the gall-duct even when the gall-bladder was squeezed forcibly; but on a silver probe being introduced into the duct, it passed readily, though this appeared to be obstructed by viscid mucous matter. The spleen was a little

larger than natural. The mucous membrane of the stomach, which contained the rice-water he had drank, shewed spots of red vascularity near the pyloric opening. A large quantity of white thick matter, resembling mucus, was found adhering to the mucous coat of the jejunum and ileum; which appeared, after this adhering matter had been removed, to be as red and vascular as if it had been prepared with fine injection. The bladder, which was contracted, contained no urine. The kidneys were pale and granulated.

Illustration ii. *Kaira, 4th July* 1821. Thomas Foster, an artilleryman, 27 years of age, was discharged from hospital on the morning of the 3rd July, cured of chronic hepatitis. The same evening he got drunk, and slept out all night in the open air, where he was exposed to the cold and wet of the season. Was admitted this morning with symptoms of the highly collapsed form of Cholera Morbus, and died seven hours after his admission, and thirteen hours after the appearance of the first symptom. A post-mortem examination was made three hours after death.

Chest. The lungs were emphysematous and crepitant.

Abdomen. The small intestines were externally of a vermillion tint; internally, the villous coat was a little more vascular than natural, and contained a large quantity of lactiform fluid. The large intestines were contracted. A slight contraction in the middle of the stomach formed this organ into two bags. The liver was of a livid brown colour, and in the first stage of schirrhus; it presented thread-like white lines beneath the peritoneal coat, appearing like small ascarides imbedded in the glandular part. Old adhesions were found between the liver, spleen, and diaphragm. The gall-bladder was filled with dark green ropy bile.

Brain. The dura mater was adhering to the skull cap, but did not exhibit any appearance of congestion, which, however, the pia mater did. The lateral ventricles contained from four to five drachms of limpid fluid, and about one ounce of the same had been effused at the base of the brain.

Illustration iii. Serjeant-Major Tomlinson, of the horse artillery, aged 28 years, was taken ill about 6 a.m. on the morning of the 5th of July 1821. Was attacked by purging, soon succeeded by vomiting, and a considerable degree of languor and debility. The symptoms increasing in violence, he applied for medicine about 8 a.m., when twenty grains of calomel and a draught of laudanum were administered. The medicine was vomited soon after, but was repeated at 10 a.m., and with the same effect. As I myself was unwell, I requested Mr. Assistant-Surgeon Mack to see him at 1 a.m. The irritability of the stomach and bowels was then very great; the tongue white and loaded; thirst great; pulse 66, and rather full; accompanied by extreme languor. No fixed pain of any part. Mr. Mack bled him from the arm; ordered the calomel and draught to be repeated; applied a blister to the epigastrium; administered assafœtida enemata, with tincture of camphor and opium; after which remedies the vomiting was relieved, but the purging of rice-water-like stools continued unabated, and the pulse became weaker. Vertigo, with tinnitus aurium, cramps, and clammy perspirations, supervened; and all the symptoms becoming worse, he

died about 12 P.M., or eighteen hours from the attack. A necroscopic examination of the body was made ten hours after death.

Head. Firm adhesion of the dura mater to the skull. The vessels of the pia mater were a little more distended with blood than usual. The lateral ventricles of the brain, which were much enlarged, contained a little bloody serum. An ounce or more of the same fluid was found at the base of the brain.

Chest. Very extensive adhesions of the pleuræ on both sides to the front part of the ribs; the lungs not fully collapsed, and of a purple hue in some parts of the posterior surface. On cutting into their substance, a frothy bloody mucus flowed from the incision, as seen in pulmonary œdema.

Abdomen. The intestines had assumed a leaden colour. The liver, which was attached to the diaphragm, etc., by several old adhesions, though not much enlarged, seemed a coagulated mass of blood. The gall-bladder was filled with dark viscid bile. The other viscera were not examined.

REMARKS. The appearances after death in these two cases are, on the whole, analogous. A greater vascularity of the pia mater than natural, effusion of serum into the ventricles of the brain, red vascular patches in the villous coat of the intestines, and marks of congestion of blood in the liver, point out a similarity of disease, though somewhat modified by the accessory circumstances of each case. The frequent watery stools which accompanied the disease, the cold extremities, and the small feeble pulse, followed the accumulation of blood in the large internal vessels of the body, oppressing the vital powers, and impeding the action of the heart. In Tomlinson's case, the quantity of blood in the liver, and the blueish tinge in the villous coat of the intestines, indicated a greater degree of congestion than there was in Foster's. The adhesions of the pleuræ in the former instance, by impeding the action of the lungs, contributed to produce this effect; and the structure of the liver in the latter seemed unfavourable to the free transmission of blood; as the thready appearance of its peritoneal coat shewed that it was approaching that state which Ballie considers the first step in the progress towards the formation of schirrhous liver. The total absence of bile in the stools and intestines, arose probably from the viscid nature of that fluid, which became an obstacle to its egress from the gall-bladder.

ILLUSTRATION IV. Tannah Garrison, 15th September 1818. A peon of the Bazar establishment was brought yesterday, 2 P.M., in the last stage of Cholera, to the Native Hospital. He had been ill between eight or nine hours, and was in a state of extreme collapse, all arterial action having ceased. Died in the course of the night. A post-mortem examination of the body, seven hours after death, was made this morning.

Head. In removing the skull-cap, the vessels of the dura mater, which were lacerated, poured out a large quantity of dark venous blood; the veins of the pia mater were also very turgid, and indicated much congestion. On making a section of the brain, the red points in the medullary substance appeared very numerous; the amount of fluid in the lateral ventricles was small; the venæ magnæ Galeni were distended

by blood to the size of a common crow-quill; and the veins at the base of the brain were gorged with blood.

Thorax. The lungs were emphysematous, of a deep purple posteriorly, and exhibited some sanguineous engorgement. The pericardium being laid open, the right auricle and ventricle were relaxed, and filled by dark coagulated blood; left auricle empty, and left ventricle containing a small quantity of dark blood.

Abdomen. The intestines were greatly distended by flatus. The peritoneal coat of the stomach, at the pyloric end, was of an unnatural red tint; but on being laid open, the mucous coat seemed natural. The peritoneal coat of the duodenum, jejunum, and ileum, was generally abnormally red and vascular, but in parts of a dark purple. These intestines contained a small portion of dark mucous matter, streaked with blood, adhering to the villous coat. The mucous coat of the cæcum and colon was of a dark leaden colour. The liver seemed natural; but the gall-bladder was filled with black inspissated bile. The spleen presented nothing unusual.

The post-mortem appearances in the following illustrations were recorded by Dr. Morehead, now Professor of Medicine in the Grant Medical College at Bombay, and formerly my assistant at the European General Hospital.

Illustration v. William Taylor, aged 39 years, a man of dissipated habits, and no fixed employment, admitted into hospital at 4 P.M. on the 19th of March 1840. Had passed many rice-water-like stools, and vomited frequently before admission; tongue white; countenance sunken; voice and pulse feeble; skin quite cold. Died eight hours after admission. A necroscopic examination of the body was made eight hours after.

Head. The vessels of the membranes were turgid with blood, and the substance of the brain was of a rosy tint, and presented numerous bloody points. There was a veil of serum on the upper surface of the brain, and about an ounce at the base of the skull.

Thorax. The lungs, moderately collapsed, were somewhat congested with blood at the posterior parts. The coronary vessels of the heart were turgid with blood; and the cavities, chiefly of the right side, were distended with dark fluid blood.

Abdomen. The omentum and peritoneal coat of all the intestines had a deep blush of redness. The stomach, which was much distended, filled the left hypochondriac and epigastric regions, and part of the right hypochondrium, pushing the liver within the arch of the ribs. The mucous coat of the stomach was much mammillated, thickened, and pale in colour. There was no distension of the intestines, and the mucous coat of the small ones was of a rosy tint, presenting well developed villosities, but no enlarged glands. The mucous coat of the colon was pale, and its follicles not apparent.

Illustration vi. Simon Francis, seaman, aged 22 years, admitted at 5 P.M. on the 6th of April 1840. Had been passing frequent rice-water-like stools for more than an hour before admission, and had vomited several times; complained much of oppression at his chest, and pain in the epigastrium; countenance sunken; voice feeble; pulse scarcely perceptible; tongue white, and thirst urgent. Died in little more than nine hours from the commencement of the attack. A

necroscopic examination of the body was made twelve hours after death.

Head. The vessels of the membranes were turgid; and there was more than the usual quantity of effused serum in the ventricles and at the base of the brain. The substance of the brain was of a darker tint than usual, and presented many bloody points.

Thorax. The left lung was emphysematous, and the right one compressed by old adhesions. The venæ cavæ were filled with blood, but the heart was flaccid.

Abdomen. The peritoneal coat of the intestines had a light vermillion tint. The small intestines were filled with rice-water-like fluid. On these being laid open, the mucous coat at the end of the ileum was pale and studded with mucous glands, which stood in prominent relief, each white, and of the size of a mustard seed; the villi of the jejunum were distinct, and its mucous surface pale.

Illustration vii. John Paget, aged 47 years, admitted at 2 A.M. the 9th of April 1840, after having been ill for about six hours with vomiting, purging of watery stools, and cramps. Countenance not much sunken; skin damp and cold; pulse feeble. The cramps and purging ceased about an hour and a half after his admission; his respiration became greatly oppressed in an hour afterwards; and death followed at 5 A.M. on the same day, or ten hours from the commencement of the attack. A necroscopic examination of the body, six hours after death, revealed the following appearances.

General Appearance. Body stout and fat.

Head. There was moderate turgescence of the membranes of the brain, and many dotted red points were visible on incision of its substance; but there was no veil of serum on its convex surface.

Thorax. The lungs were anteriorly emphysematous, and posteriorly œdematous; the heart was loaded with fat, and its right auricle filled with blood.

Abdomen. There was a very faint blush of redness on the peritoneal coat of the intestines; the omentum was loaded with fat; and the liver was pale.

Illustration viii. Lewis Simas, a pauper, aged 11 years, admitted the 16th of April 1840. Had been suffering from diarrhœa and vomiting for three days previous to admission; said that his abdomen was tender, and that he had been passing stools mixed with blood. Leeches to the abdomen, an opiate enema, and warm bath, were administered with relief: but on the 17th, he was severely attacked with vomiting and purging, and sank rapidly from collapse. A necroscopic examination of the body was made twelve hours after death.

General Appearances. Body of a slender form.

Head. There was much turgescence of the vessels of the membranes, and a very considerable amount of effused serum on the convex surface of the brain. The medullary substance was generally soft, and shewed many bloody points.

Thorax. The costal and pulmonary pleuræ were connected together by old adhesions, and the posterior part of both lungs was œdematous.

Abdomen. The liver was natural. The mucous coat of the stomach presented marbled red patches, but was firm in texture. The intestines

were somewhat distended, and their fluid contents were of a light grey colour. The patches of Peyer's glands, at the end of the ileum, were much developed. The mucous coat of the colon was of a light grey colour, and its follicles were not very distinct.

These individual illustrations of the anatomico-pathological appearances in Cholera, have been taken from cases of the disease as it appeared at various times in India. They were recorded without any preconceived notion or theory of the disease, likely to bias the mind in its observations; and having been detailed by different individuals (myself, and Dr. Morehead), must be allowed some weight, as the means of establishing or disproving questionable points of opinion on this head. They agree generally with the observations of M. Raikem, lately communicated to the Belgian Academy of Medicine; and do not bear out some of Dr. W. T. Gairdner's conclusions, "*that it is an error to conceive of congestion as an essential or universal condition in this disease.*" This remark is true, as it applies to the *liver*, *spleen*, and *kidneys:* the congested condition of the liver and kidneys being contingent on there having been little or no *exosmosis* from the intestinal exhalents and minute venous trunks of the portal vein. But, assuredly, *mechanical congestion* of other parts of the venous system, from the cessation of the endosmotic power of the lungs, is an essential condition of Cholera, and is manifested by the right side of the heart and venæ cavæ being loaded with blood, and by the cerebral veins and venous sinuses and vessels of the medulla spinalis being in the same state, greater or less, according to the smaller or greater amount of serous effusion that may have taken place from the vessels.

Post-mortem observations in Cholera cases are of acknowledged importance in studying the disease, in order to obtain a more exact knowledge of its nature, and an improved method of treatment: but, *pathological anatomy* not being *pathology*, if we would obtain a more comprehensive knowledge of the *series of morbid changes* which constitute this *most obscure* if *not incomprehensible* malady, we must study the *defects of the vital principle*, and *the diminished constitutional power of resistance against external agents, which precede and regulate* all the subsequent phenomena. It may be useful, however, and partly contribute to this most desirable investigation, as the foundation of a better therapeutic system, to give here a summary of the characteristic groups of morbid anatomical changes, in both solids and fluids, which distinguish Cholera from, or associate it with other diseases, to which it seems allied. The heads of this summary will be nearly those already given in Dr. Gairdner's valuable report referred to, with such emendations as seem necessary and are warranted by my own observation, and by the experience of others.

I. Effects of Previous Disease. The conclusion, that individuals of unsound constitution are not more liable to Cholera attacks than those in perfect health, requires a greater collection of anatomico-pathological facts, than that on which this statistical induction has been made, before its establishment can be admitted. It is in complete opposition to a well ascertained law of predisposition in this and other diseases—namely, that whatever has a tendency to render sanguification and nutrition defective, to pervert secretion and weaken the constitutional powers of

resistance to morbific causes, favours the production of Cholera collapse. Though many persons in perfect health were attacked by Cholera in 1818, under the strongly epidemic influence of the atmosphere then prevalent, yet the chief victims of the malady were the *aged, emaciated*, and *previously diseased*. The chronic lesions, found most influential in producing Cholera development, were those which impeded the due performance of the respiratory function; a conclusion fully borne out by the cases given in illustration.

II. Condition and Secretion of the Intestinal Canal. M. Raikem's observations on this head, are confirmed by those made in India. Where the amount of watery purging had been least, the mucous intestinal surface was coated with a thick layer of white creamy matter, associated with much hyperæmia of the membrane, visible after the mucous or fibrinous exudation had been removed. Sometimes the stomach and intestines contained large quantities of this whitish creamy matter, occasionally tinged with blood. Andral considers the fluid, which constitutes the rice-water-like stools of Cholera, to be only mucus secreted in large quantities and modified in its qualities; in which opinion Dr. Gairdner coincides. But Dr. Parkes, with well considered grounds for opinion, is disposed to consider *all the flocculent matter of the true Cholera stool, cells, dark yellow granules, fibres, flakes, and amorphous matter, to be but modifications of the same substance, viz., fibrine;* and that though the corpuscles seen in these Cholera masses may be mucus, yet *these fibres and flakes, in all respects chemical and microscopical, resemble those seen in the so-called inflammatoryexudation matter; and it is in the highest degree probable, that they owe their origin to effused blood plasma, which assumes with great rapidity a low, ill-defined, and non-progressive organization.*[1] It is in all respects similar to the follicular deposit of typhoid fever, being a *diphtheritic exudation*,[2] similar to what is formed on the pharynx and tonsils, in certain morbid conditions of the blood, when its fibrine has lost its natural firmness and vital cohesion. It sometimes appears as an exudation of the *submucous tissue*, distending the *solitary* and *Peyerian glands*, so as to elevate them in patches; which yield, on section, a milky liquid, analogous to that found in the intestines, and noticed both by Drs. Gairdner and Raikem. The latter observed, the exudation generally confined to the *glandulæ solitariæ*, whose base was of a pearly white, and surrounded by a sort of areola of hyperæmiated arborescent vessels, with sometimes superficial ulceration at their summit. Dr. Gairdner describes the exudation as presenting itself in ecchymosed patches distinctly circumscribed, but of greater or less extent, and in tint varying from a claret colour or deepest purple to a greyish or leaden colour. The mucous membrane of the stomach and intestines was sometimes pale, but more frequently exhibited the scattered vascular portions in the sub-mucous cellular tissue, as already described.

III. Lungs. The lungs were sometimes collapsed and almost natural; but more frequently *voluminous and emphysematous;* of a dark purple

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[1] Parkes on the Intestinal Discharges in Cholera, London Journal of Medicine for February 1849, before quoted.

[2] Edinburgh Monthly Journal for July 1849.

colour, and œdematous at the posterior parts; the right cavities of the heart and venæ cavæ greatly distended with blood, which Mr. Lizars, in thirteen cases, found in a state of fibrinous coagulum, and the left side of the heart containing only small quantities of the circulating fluid: appearances which do not certainly support M. Raikem's assertion, that there is no *asphyxia* or paralysis of the lungs in Cholera.

IV. Glandular Secretion. The glandular secretions, according to the incomplete investigations we yet possess on the subject, undergo alterations in quality, and are most probably diminished in quantity. The biliary secretion appears to be retained rather than suppressed; but, though apparently abundant in the gall bladder, it contains a large amount of mucous matter, and possibly morbid constituents; experiments being still requisite to determine this point. The gall-bladder has been found studded with highly-developed hyperæmiated vascular ramifications, and sometimes containing a large quantity of clear limpid fluid; indicating that its mucous coat is in the same low state of inflammatory organization as is met with in the intestinal mucous surface. The liver and spleen, however, have not presented the remarkable signs of active disease, met with among the anatomico-pathological appearances of *remittent fever*.

The state of the kidneys, in the Indian necroscopic examinations, was seldom attended to; but Dr. Gairdner's microscopic examinations of these organs are of the highest interest, more particularly when we connect his observations with the morbid state of the intestinal mucous surface as observed in Cholera. Dr. Gairdner says, *the kidneys, however, appeared in many cases to have undergone changes, the cortical substance being pale and turgid, and the tubuli uriniferi gorged with imperfectly developed epithelium, which was mostly loaded to an unusual extent with oleo-albuminous granules. A similar state of the kidneys occurs after scarlatina, and not unfrequently after typhus fever, and some other acute diseases.* This ascertained condition of the kidneys is, as it regards the condition of the blood, of the utmost importance in guiding us to a right understanding of the phenomena of Cholera. Dr. Garrod ascertained that the urea of the blood gradually increases in amount, from the cold stage to that of febrile reaction; and explains the phenomenon by supposing that, in intense and sudden collapse, the urinary excreting function and also the vital metamorphoses are diminished or suppressed, and therefore the formation of urea is likewise nearly suspended; but that when partial reaction ensues, and the vital changes take place with greater activity, urea must accumulate in the blood, if the function of the kidneys be not at the same time restored.

V. The Nervous System. The *spinal chord* was only examined by me in two cases, and in one only of these were the sympathetic ganglia, and substance of the medulla oblongata and medulla spinalis, noticed; they seemed somewhat more vascular than natural. Dr. Gairdner states that the sympathetic ganglia, and the pneumo-gastric nerves, were repeatedly examined; but nothing unusual, except, in a few cases, slight ecchymosis, was discovered. Well marked venous congestion of the substance of the brain, and of the cerebral membranes, was frequently present; in one case, softening of the cerebral substance; and, in most, copious serous effusion into the ventricles.

Pathological Summary. Some further investigations on certain doubtful points, the chemical constituents of Cholera bile, and of the effused serosity into the brain and other cavities; more precise microscopic examinations of the state of the medulla oblongata, medulla spinalis, and ganglionic nerves; and a more extended series of chemical and microscopic observations on the conditions of the blood, its degrees of coagulation and fluidity, the tenacity of its fibrine, the ratio of its albumen and salts to the healthy standard and the appearance of the blood vesicles, seem yet necessary, before we can obtain a well established pathology and rational therapeutics of this disease. It is also of essential importance that authors state the stage of the disease, to which their observations refer. So far as our present investigations extend, they warrant us in adopting the following Conclusions.

1. That Cholera begins in a change by the blood, or morbid arrangement of its ultimate particles; by which a diminution or altered quality of its fibrine and normal ingredients takes place, impairing the formative and vital power of the circulating fluid.

2. That this altered condition of the blood, caused by unhealthy assimilation and improper food, *malarious influence*, damp ill-ventilated apartments, unhealthy exhalations from drains, and epidemic constitutions of the air, is generally manifested by certain low inflammatory exudations on the mucous surface of the stomach and intestines, accompanied by progressive, and sometimes sudden, loss of function in the nervous, respiratory, circulating, and secreting systems.

3. That the concatenation and succession of phenomena which mark the full development of a Cholera attack, consist of a depression of nervous power, a cessation of endosmotic function in the pulmonic cells, a state of congestion and arrest of the blood in the right cavities of the heart and veins, emphysema or œdema of the lungs, cyanosis and loss of animal heat, increased exosmotic exhalation from the mucous membrane of the alimentary canal and cutaneous surface, increasing carbonization of the blood and diminution of its quantity in the arterial system, suspension of the urinary secretion, and general *toxæmia*.

V. TREATMENT.

Cholera being, pathologically, a low inflammatory irritation of the mucous membrane of the alimentary canal, with deficiency of vital power in the blood to retain its fibrine in aggregation with the other elements, manifested generally by *premonitory diarrhœa*, consecutive cessation of endosmotic function in the pulmonic cells, and arrest of healthy fæcal secretion, the indications of cure are:—1. To allay irritation of the stomach and intestines, check the unhealthy intestinal secretion, and restore the natural action of the skin. 2. To support the powers of the nervous system and heart, and prevent congestion in the lower part of the brain and spinal marrow during the development of the second stage. 3. To promote and restore the biliary and urinary functions so as to eliminate *toxæmic* elements from the blood. 4. To moderate the violence of reaction, subdue cerebral and abdominal complications, equalize the general circulation, and restore tone to the system.

If the premonitory symptoms of the first stage be attended to, and timely treatment of these be adopted, by allaying irritation of the

mucous surface of the alimentary canal, restraining the diarrhœa, and restoring healthy perspiration to the skin, the symptoms of the next two stages, or developed Cholera, may be generally prevented. If the stomach be oppressed and loaded by undigested contents, it will be sometimes useful to relieve it by an emetic of mustard and warm water, or one of sulphate of zinc; but caution in the administration of emetics seems necessary, lest they increase the intestinal irritation, and add to that nervous depression which precedes the development of Cholera. Purgative remedies are, for this reason, yet more to be avoided in *Choleroid* diarrhœa, as I have known several individuals in India, who, on feeling oppressed and anxious under the indigestion and slight bowel derangements which precede Cholera, took nothing more than rhubarb, and were soon after attacked by symptoms of the second stage. Case II, which has been related, under the head of Cholera modifications, was of this kind. It is therefore advisable to fulfil the first indication by administering enemata of acetate of lead and tincture of opium,[1] giving a pill of sulphate of quinine and calomel combined with catechu or extract of logwood and a small proportion of opium, to be repeated every hour, or second hour, according to the urgency of the symptoms and the persistence of the diarrhœa. Under a conviction that *gastro-enteric inflammation*, in India, associated with *diarrhœa*, generally proceeded from *malaria*, and was an effect of the same diseased irritability, which gives rise to the phenomena of fever and Cholera, I employed, many years ago, the combination of quinine and calomel, in the treatment of this class of diseases, and with much advantage. The proportion of the quinine to the calomel given was greater or less, as the diarrhœa was more or less severe; but in many cases the calomel was omitted, and one grain of sulphate of iron and a quarter of a grain of opium to every four grains of sulphate of quinine, were beneficially substituted.

Dr. Cormack, of Putney, informs me that, acting on a suggestion which I made to him, now nearly twelve months ago, he has found the citrate of iron and quinine one of the most useful medicines which can be given in the *Cholerine*, now almost universal on the Surrey side of the river. In infantile cases the remittent type is commonly well marked; and in them, specially, the combination of this preparation with astringents is useful. In the severe spasmodic cases, with much intestinal irritation, Dr. Cormack has found the *camphor-chloroform mixture* of Messrs. Smith of signal advantage, in doses of from three to six minims,[2] repeated every two or three hours, according to the circumstances of the case. This medicine may be also usefully given in combination with the creasote mixture of the Edinburgh *Pharmacopœia*, to allay vomiting; and Dr. Cormack often combines the creasote mixture and camphor-chloroform mixture with catechu, or such other remedies as may be indicated. The administration of sulphate of quinine with camphor, in Cholera, has also been found useful by Dr. Lorimer, of the

[1] The French have found injections of nitrate of silver very efficacious; and though I have never used them in Cholera, I am disposed to recommend them, having found them useful in dysentery.

[2] *Edinburgh Monthly Journal* for November 1848; also, London Journal of Medicine, for January 1849, p. 102.

Madras Medical Service; and M. Duchesne-Duparc, at Paris, has been lately recommending the former as a *prophylactic*, or rather a *curative*, for the disease. It is, doubtless, of great efficacy in preventing the depressing effects of *Choleroid* diarrhœa, and arresting the course of the disease. The patient should at the same time use a hot bath, at the temperature of 106° of Fahrenheit, be afterwards laid in bed, and have a large sinapism applied to the epigastrium. Milder cases do well under the use of sulphate of quinine and calomel pills; but when muscular debility is a prominent symptom, and the action of the patient's heart feeble, he should be bathed in the horizontal posture on a bed, by wrapping him in a sheet wrung out of warm water, then covering him with several blankets after the hydropathic fashion, applying warming-pans of hot water till warm perspiration appears; when the patient may be laid in a dry warm bed. The danger of such cases is from syncope being induced by over exertion or the upright posture while in the common warm bath, the evil consequences of which I often witnessed in the first epidemic Cholera seen by me in India, where people were scalded in the hot bath, without reflection that syncope, any way induced, proves fatal to the weak circulating system. Attention to the maintaining of the horizontal posture, the employment of enemata, and all freedom from exertion, is more necessary in the second stage than even the first. To fulfil the second indication, the patient should take the quinine, combined with any preparation of iron, camphor, and a small proportion of opium, along with a draught of bicarbonate and nitrate of potass dissolved in camphor mixture, with the addition of nitrous ether; to be repeated every hour. Small quantities of brandy, or gin, in cold soda or potass water, may be given for drink; and if the cramps of the extremities be severe, the limbs are to be *shampooed*, or bandaged in the manner recommended by Dr. French. Dry cupping at the base of the skull and cervical region, or the application of a large sinapism along the spine, and another on the epigastrium, will be useful in this stage of congestion, and also in the fully developed algide stage. Frictions of the limbs and chest with stimulating liniments, and the application of bags of hot sand, or bottles of hot water, to restore the animal heat, are of utility.

In making use of a combined tonic and stimulating mode of treatment, with diuretics to restore suppressed urinary secretion, we at once fulfil the second and third indications of the requisite treatment. The diuretics indeed may be advantageously used, in combination with the other remedies, from the beginning; but their action becomes more a principle of treatment in the *second* and *third* stages, when *toxæmic* elements have accumulated in the system, and have to be eliminated. In modified pyrexial cases, their utility is strongly indicated, during the temporary reaction, when urea is accumulating in the blood, destroying the nervous irritability of the heart and brain, and encouraging the venous congestion of these organs. It is in cases of this kind that a timely and judiciously employed bleeding from the arm, may be of service in relieving the oppression of the heart and equalizing the circulation: but when resolved on, it should be performed while the patient is in the recumbent posture, and in the wet *cumlie*, or sheet, wrung out of scalding water. We may sometimes dispense with the use of the latter, particularly when there are symptoms of considerable toni-

city in the circulation, and of local inflammatory action in any organ. Stephen Dewer's case (p. 719) was one of this kind, in which *gastro-intestinal* symptoms were predominant, accompanied by temporary abdominal spasms, pain at the epigastrium, and pulmonic oppression, head-ache, and irregular reaction; where the excitement of various organs, following previous congestion, might be viewed as a necessary condition of their restoration to health. In such cases, as in fever, we have to equalize the circulation by remedies that give tone to the nervous, and reduce phlogosis in the circulating system. The good effect of *general* and *local* bleeding will be manifest on reference to the report of the 4th of July, when relief from cramps, and diminution of pulse followed the former; and again, when on the 8th, complete removal of epigastric tenderness was produced by the latter. In the premonitory stage of the disease, where so much good can be effected by medicine, the removal of patients from low, damp, affected localities, to higher and drier situations, where they breathe a drier and purer air, will materially aid in effecting a cure: for whether it be the relatively altered electrical state of the air to the condition of the human body, that produces such beneficial results, the efficacy of the change, in such cases, is at *least* undoubted.

Reaction, or the fulfilment of the fourth indication, must be treated on the principles applicable to varieties of fever. In thus endeavouring to introduce a rational system for the treatment of Cholera, on clear pathological principles, I have abstained from noticing the greater or less success of particular remedies, and the applicability of them to modifications of the disease; contenting myself by giving this brief outline of the treatment, on which I may probably enlarge when the present article is reprinted and published in a separate form.

27, Hyde Park Square, 17th August, 1849.

P.S. Since writing the above, I had an opportunity, (on the 22nd August), of seeing three cases of the disease, under the care of Dr. Cormack. One, an infant, was in a state of collapse, and died on the following day; another infant, in the same house, was passing into the same state, and died on the 25th. The third patient was an adult woman, who had been brought very low by the vomiting and purging. The symptoms on the day on which I saw her were precisely those of a pernicious ague: the danger of collapse seemed imminent; and there was almost total suppression of urine. She was judiciously treated by diuretics, stimulants, and a mixture of the citrate of iron and quinine. She is now convalescent. Dr. Cormack has sent me a very full account of the post-mortem appearances in the first fatal case; from which it appears that the deficiency of blood in every part of the body was most striking. The lungs were œdematous; the liver and kidneys pale; and the spleen was natural in size and consistence.

27th August.

BIBLIOGRAPHICAL RECORD.

PRINCIPLES OF MEDICINE: comprising General Pathology and Therapeutics, and a Brief General View of Etiology, Nosology, Semeiology, Diagnosis, Prognosis, and Hygienics. By CHARLES J. B. WILLIAMS, M.D., F.R.S. pp. 533. London: 1848.

(Continued from p. 744.*)*

Chapter IV treats of STRUCTURAL DISEASES, OR DISEASES OF NUTRITION, composed of ULTIMATE AND PROXIMATE ELEMENTS. These are arranged under the heads of *increased*, *diminished*, and *perverted* nutrition, in the following table.

ELEMENTS OF STRUCTURAL DISEASE.

- DISEASED NUTRITION
  - Increased = hypertrophy.
  - Diminished = atrophy.
  - Perverted
    - Induration.
    - Softening.
    - Transformation and degeneration.
    - Deposits
      - Euplastic: Cicatrices; False membranes.
      - Cacoplastic: Cirrhosis; Fibro-cartilage; Grey tubercle; Atheroma, etc.
      - Aplastic: Yellow tubercle; Calcareous matter, etc.
- ALTERED MECHANISM
  - Contraction
  - Dilatation
  - Obstruction
  - Compression
  - Displacement
  - Rupture, etc.
- Growths
  - Non-malignant: Cysts; Tumours; Hydatids, etc.
  - Malignant: Carcinoma; Encephaloma; Melanosis, etc.

The division here given is, however, Dr. Williams remarks, too precise to be rigidly applicable to many cases. "Lesions of nutrition often graduate into each other, and are very commonly combined: hypertrophy of some textures often co-existing with atrophy of others; perverted nutrition being often combined with excessive or defective; and several of these different changes often occurring in succession, in consequence of the operation of the same cause." (p. 355.) Our knowledge of structural diseases is as yet imperfect: much remains that is obscure in their nature and origin, and which can only be explained as we become better acquainted with the laws of nutrition. Yet we can already perceive in them an element of malnutrition, in which the vital process of development fails in one or more of its stages.

Increased nutrition, constituting HYPERTROPHY, as a disease, is always partial. It may be *simple*, affecting *individual textures* (an ultimate element); or *complex*, affecting *whole organs* composed of many textures, (a proximate element). Instances of both forms are given by Dr. Williams; and the treatment is shewn to consist chiefly in the removal of the pathological cause which induces it, whether congestion, determination of blood, or inflammation; and, whenever practicable, the exciting cause should be removed or counteracted. In some cases, remedies may be directly applied to reduce the size of the hypertrophied organ.

Diminished nutrition, or ATROPHY, may, unlike hypertrophy, be a general disease. The causes are divided by Dr. Williams into those which promote

decay, and those which impair or prevent reparatory nutrition. Among the former may be classed such causes as excessive exertion, want of sleep, extreme anxiety of mind, or continued suffering. Urea is present in excess in the urine. In marasmus also from excessive secretions or drains from the body, there is proof of accelerated decay; urea is increased in amount in diabetes mellitus. Fever and various acute diseases, attended with much excitement, also induce atrophy. The circumstances which impair or prevent reparatory nutrition are thus enumerated: "1. Defective quantity or innutritious quality of food; 2. Disorder of some part or parts of the digestive apparatus, such as extreme dyspepsia, diarrhœa, etc., which prevent the formation of chyle; 3. Diseased mesenteric glands or tumours obstructing the thoracic duct, intercepting the supply of chyle to the blood; 4. Perversion of the assimilating process by which chyle is converted into blood, as in diabetes mellitus and chylosus; 5. Defect in the formation of fibrin and albumen of the blood, the materials of nutrition, so that, instead of becoming the plastic material for repairing the texture, they have a tendency either to pass into decomposition, as in malignant fevers, or to concrete in a cacoplastic form, as in tuberculous diseases; 6. Excessive discharges of various animal fluids, of blood, pus, serum, milk, semen, mucus, etc.; or morbid growths, which monopolize the nourishment of the body, such as tumours of various kinds, particularly cancer; 7. Parasitical creatures, such as hydatids, worms, etc." (pp. 361-2.)

Partial atrophy is commonly produced by defective supply of blood to a part, arising sometimes from disease, sometimes from the changes induced by inflammation or other structural disease, especially when contractile cacoplastic water is effused, as in cirrhosis of the liver and granular disease of the kidneys, the deposit compressing the vascular structure. Atrophy of other organs, as the heart and brain, is often found connected with ossification and partial obstruction of their arteries.

The *treatment* must be directed to obviate the cause, to supply proper and adequate nourishment, and to promote the healthy exercise of the digestive, circulatory, and assimilative functions. In the course of his remarks, Dr. Williams observes, that "in addition to a fair allowance of milk, butter, and fat in food, or instead of them where they disagree, the cod-liver oil is a valuable remedy in atrophy. It is most suited to scrofulous cases; but I have experienced its utility in convalescence from fevers, and from prolonged and wasting attacks of rheumatism." (p. 364.)

Perverted nutrition comprehends all those changes which go beyond mere degrees of *plus* and *minus* in the textures. In these, either the *quality* of the texture is altered, or some new texture, growth, or deposit, is superadded.

Induration and softening may both arise independently of inflammation. Induration is constituted by an increased deposit of solid matter in a structure, or by compression of that structure, or by both. In such cases there is probably prolonged determination of blood. Softening may arise from specific causes, as from defective deposition of phosphate of lime in the bones; from the action of the gastric juice on the stomach; from defect of fibrin in the blood; and in several cases of cachectic disease, usually with degeneration of the liver and kidneys, Dr. Williams has found a general softening of the textures, which presented a number of oil-globules. In other instances, softening is a variety of atrophy, the supply of blood being defective, either from ossification of arteries, paralysis, or, in some instances, from inflammation causing obstruction of the vessels. This result is promoted by a non-fibrinous state of the blood: and Dr. Williams judiciously remarks, that "it is a serious question whether the continuance of antiphlogistic measures and abstinence does not occasionally promote this consequence of the changes of inflammation. Some of the most distinct cases of softening of the heart and brain I have met with, have been those in which the patients have been long

kept in a reduced state, for fear of return of the inflammation of these organs." (p. 367.) And in the course of his remarks on the treatment of induration and softening (p. 368), Dr. Williams, in pointing out the indications to restore the plasticity of the blood in cases of non-specific softening, says: "The relief sometimes afforded to the symptoms of softening of the brain and heart, after all inflammation has ceased, by mild stimulants, tonics, and a moderately nourishing diet, is too little known to those who have always the fear of inflammation before their eyes, and who yet forget that a chief evil of inflammation is the injury it inflicts on function and structure, which injury often lasts when the inflammation is gone, or is of trivial amount." Besides stimulants and tonics, some agents seem to augment the plasticity of the blood, without having any remarkable tonic powers. These are the nitric and nitro-muriatic acids, and chlorate of potash; and these seem, in Dr. Williams' opinion, to act by supplying oxygen to the blood.

TRANSFORMATION OF TEXTURES usually implies DEGENERATION. The principal exceptions are the occasional transformation of skin into mucous membrane, and *vice versâ*, which result from changes of the physical conditions in which the membrane is placed. Muscle is sometimes transformed into, and when wounded is generally replaced by, a fibro-cellular texture. There are four kinds of degeneration of animal textures, which have very distinctive physical and chemical characters, viz., the *fibrous*, the *granular*, the *fatty*, and the *osseous* or *calcareous*.

Fibrous Degeneration is chiefly met with in muscular structures; and several of the parenchymatous organs sometimes present a similar change, though it is here rather to be considered as an additional deposit. This form of deposit tends to degenerate into the next form, the granular. This also is often the result of the effusion of cacoplastic lymph; and frequently constitutes the first stage of the further degeneration into fatty or calcareous matter. It is a state intermediate between fibrous and fatty degeneration. When examined with the microscope, "the structure presents a remarkable increase of aggregated granules, with a corresponding diminution of the fibrous or filamentous tissue. The granules are not highly refractive, and there are no free oil-globules: in this respect it differs from fatty degeneration; neither is it so opaque or fragile as the true fatty atheroma." (p. 371.) Its chemical composition is probably gelatigenous or albuminous.

Fatty Degeneration is met with in the muscles, liver, and some other structures; and is to be distinguished from hypertrophy of the adipose tissue. It is strikingly exemplified in some forms of diseased liver; but Dr. Williams differs from the opinion of those who consider it to result here from the presence of bile in the process of formation; for if it were so, we should find it more constantly in phthisis, and other diseases of the lungs. He has observed it chiefly in females in whom maceration has proceeded very rapidly; and ascribes it rather to an arrest of the fatty matter taken into the blood during the rapid decay of the textures. It is evident, however, that it must in many cases arise from some chemical tendency in animal substances, independently of impairment of the function of any particular organ; and this view is favoured by a consideration of the circumstances under which it takes place. "As a *general* disorder, or *affecting many organs* at once, it occurs in connexion with a feeble circulation and low respiratory powers; and is favoured by circumstances which increase the hydrocarbon of the blood, whether they be the habitual indulgence in alcoholic stimulants and the like; or the imperfect removal of biliary matter from the system. An increase of fat, especially of cholesterin, has been observed in the blood of aged persons. Fatty degeneration affecting a *particular organ* (except in the peculiar case of the liver), is commonly a result of previous disease impairing the freedom of circulation through it, and often leaving a granular or other cacoplastic deposit in its interstices, which not becoming fully organized, nor receiving the renovating and oxidating influence of the circulating blood, gradually passes

into a fatty condition, the lowest in the animal scale, and, in its not possessing azote, approaching to the plurality of vegetable matters. The same changes may result more gradually from the failing circulation and respiration which marks advancing age ; and will be accelerated in any texture or organ, the structure of which has been injured by previous disease, accident, or disuse." (p. 374.)

The results arising from Fatty Degeneration are thus summed up : " Under whatever circumstances the fatty transformation occurs, it is obviously a process of degeneration, or degradation to a very low scale of animal or even vegetable life ; (its occurrence in gangrene is a striking illustration of this point :) and both the vital and physical properties of the organs which it invades become lowered and otherwise injured. The muscles so degenerated lose much of their contractile power ; and, if subjected to distension, as in the heart, become dilated, and may be ruptured. The tonic and elastic fibres of arteries also suffer in their spring-like properties, and may yield in pouches or become lacerated, or in process of time, petrified. Glands and secreting structures lose much of their secernent activity, and their cells, vessels, and ducts may be clogged or deranged by their fatty contents, especially when these assume the solid form. Parenchymata and interstitial tissues suffer in their properties of softness and cohesion, and in the freedom of their circulation, and become liable to the further changes of disintegration, and calcareous deposition." (pp. 374-5.)

Calcareous or Osseous Degeneration approximates the structure to the state of a mineral, and is to be considered as almost entirely a chemical process. The calcareous salt, phosphate of lime, is deposited in the interstices of the tissue, but has not any resemblance to the structure of bone, except accidentally in cartilages. It appears to be " the result of a chemical attraction of degenerating albumen for the phosphate of lime in the adjoining fluids." The petrifactive process is essentially slow, and occurs mostly in advanced age, though it may be induced at an earlier period, by chronic inflammation. The injuries which it inflicts on the structure and function of parts are obvious ; rendering them rigid, inflexible, inextensible, inelastic, and therefore brittle and obstructive. Calcareous degeneration of a particular apparatus, as of the organs of respiration or circulation, is more liable to induce serious affections in young or middle-aged persons, in whom the other functions are not equally lowered : hence may occur spasmodic asthma and bronchial congestion, in connexion with ossified bronchial tubes ; and angina may supervene on ossified valves or arteries. From these " the equally, but more completely or uniformly *petrified old man* may remain free, so long as he is kept in a state of vegetable, or almost mineral quiescence." Hence arises an indication for limited exertion.

The *treatment* of degeneration in general consists of means calculated to sustain the vitality of the frame, and to preserve the organic functions in a healthy state of activity. Pure air, regular exercise, and friction of the surface, warm or cold baths, and nutritious and carefully prepared food, are of the first importance. As medicinal agents, tonics may be of some little utility ; but they often require to be combined with alterative aperients, and similar remedies, to restore the depraved and defective secretions. Congestion and inflammation must be carefully combated, chiefly by topical means. The remedies for each form of degeneration are concisely treated of, and their relative merits briefly pointed out.

Deposits in or upon textures result from an overflow of the nutritive material beyond what is necessary for the actual nutrition of the textures. They are classified by Dr. Williams under the heads of *euplastic, cacoplastic* and *aplastic.*

Euplastic deposits, or Cicatrices, may occur independently of inflammation ; but a certain amount of well-fibrinized blood is necessary to supply the plastic material. The reparation of living texture, when cut or wounded, may

be effected in three ways: 1. By the growth together of the adjoining parts of the wound, as in fine punctures and incisions, and in larger wounds when irritation and inflammation are prevented; 2. By the medium of organizable lymph, or, more rarely, of a clot of blood, which becomes organized and forms a cicatrix; 3. By granulations and lymph together; this form is necessarily attended with inflammation.

The description of the formation of cicatrices given by Dr. Carpenter, in his *Human Physiology*, is quoted by Dr. Williams; who, with regard to the formation of the capillary vessels in the effused lymph, expresses his opinion that the oscillatory movements observed in the newly formed capillary vessels can only be those of the pulsation of the heart. Though the fibrin of coagulable blood has been found to become vascular, the colouring matter does not appear to assist in the process, but, in some instances, seems rather to retard or degrade it.

The *remedial measures* are such as promote a due determination of blood (whether it be called inflammation or not), and such a plastic condition of the blood as shall contribute to the effusion of a sufficient amount of organizable lymph.

Cacoplastic deposits arise from defective organizability of the effused lymph, or from some modification of the vessels of the part injured, or of their exudation, or from chronic and scrofulous inflammation of internal parts, and from congestion. Their most remarkable property is their tendency to contract: hence the puckering after burns, the indurated structure of the liver and kidneys in granular degeneration, the corrugation and contraction of the valves of the heart after thickening, etc. To this variety of nutrition Dr. Williams has devoted considerable attention. He remarks that their structure deserves to be more fully investigated. "They appear to possess some organization, being composed of irregular cells and fibres, with more or less granular or amorphous solid matter to complete their substance. They, however, exhibit various degrees of organization, some being vascular, and some not; but they are all inferior to the structure with which they are connected, and to euplastic deposits." (p. 385.) They are found, more or less, in almost all individuals, in proportion to the degradation which the nutrient function has undergone; and they take place in one organ more abundantly than in another, when it is predisposed by disease to suffer, as in granular degeneration of the liver or kidneys in persons of intemperate habits.

A further degradation of the nutritive material is exemplified in the *semi-transparent, miliary, grey, and tough yellow forms of tubercle.* We quote Dr. Williams' opinions on the nature of these deposits. "Instead of (with Laennec) classing tubercle under the vague term of 'accidental productions,' or (with Carswell) as a 'secretion *sui generis*,' I have for many years referred tubercle to a degraded condition of the nutritive material from which old textures are renewed, and new ones formed; and have held that it differs from fibrin or coagulable lymph, not in *kind*, but in *degree*, of vitality and capacity of organization. These views have received almost demonstrative confirmation in the microscopic researches of Mr. Gulliver and others, which have detected in tubercle the materials of lymph, but in a degenerated and confused state, the cells being few, irregular, shrivelled, with imperfect nuclei, and incapable of further development; no fibres being perceptible, and the main substance being composed of granular or amorphous matter. Every gradation may be found between euplastic and aplastic deposits; the cells and fibres which are the representatives of organization diminishing in number and completeness, and the material becoming more granular, amorphous, or abounding in fat globules, in proportion as the deposit is degraded, until, in opaque, crude, or yellow tubercle, it is altogether aplastic, consisting of a mere aggregation of granules and fat globules, with mere traces of the remains of cells. I consider that the more solid forms of tubercle are entitled to a place among cacoplastic deposits; because, although destitute of vascularity, they

seem to possess a kind of structure, like that of the lower kinds of fibro-cartilage and granular deposit. Their affinity with granular degeneration is shewn by their commonly occurring in the same subjects, and by their frequently exhibiting the same tendency to contraction. In a very large majority of cases of chronic granular disease of the kidneys or liver, there are found more or less traces of tubercle in the lungs, its chief seat: and in very few instances of chronic phthisis, have I failed to find some degree of granular disease in the liver or kidneys. In acute phthisis and acute granular disease, local causes accelerate the degenerative change to a destructive extent in one organ, before there is time for others to become affected." (pp. 386-7.)

The contractile property of cacoplastic deposits, as exemplified in false membranes, and in miliary tubercle, is probably due to the partial removal of the granular and amorphous portion of the deposits, and to the closer approximation of the fibres or more organized constituent. The effect of this is to raise the contractile deposit to a standard at which it is tolerated by the adjoining textures; but, at the same time, it contracts and compresses the vessels, interferes with nutrition and other functions, and often lays the foundation of serious disease. The common forms of tubercle, however, tend to become *aplastic*. False membranes and miliary tubercle are both at first effused in the granular form; but in the former the exuded matter is drawn or spread into threads or films by friction or pressure. In scrofulous and chronic inflammation, the granular character persists longer, in the effusions on serous membranes. Besides arising from inflammation, tubercles are often evidently the result of modified textural nutrition. "The cell-germs by which the material of textures is renewed, are imperfect at particular points; a granular or amorphous matter is deposited from the plasma, and concretes without fibres or regular cells being developed; at this point a granulation appears, and gradually hardens. Where a granule has once been formed, it becomes a nucleus for the concretion of more: a new habit or mode of nourishment is established at the spot; or, to speak less figuratively, cacoplastic matter (if present in the blood plasma) concretes around it by a process similar to that by which fat attracts fat, or bone osseous matter; perhaps the process is not wholly unlike that of crystallization. But however it happens, the result is, that the granular tubercle grows, and may attain the size of a millet-seed, hemp-seed, or even a small cherry-stone; or, being subjected to pressure, may slightly spread or flatten into various shapes." (pp. 391-2.)

The microscopic character of these tubercles is the great scarcity of fibres and cells, and complete preponderance of minute and often irregular granules, aggregated together by an amorphous material, soluble in acetic acid. Granular tubercle is albuminous, with some gelatine (probably the amorphous matter), and a very minute proportion of fat in the centre of some granules.

Aplastic Degeneration is often the result of a further change in the tubercular deposit, apparently the converse of the contractile process. The few fibres and cells found in grey tubercle become indistinct; the interstitial amorphous matter is replaced by oil-globules; and the mass becomes less adherent and more granular, constituting yellow or opaque tubercle. This change generally begins at the centre, being furthest removed from the influence of the blood. Here it results from a deficient supply of plasma; but an undue supply of blood, from congestion or inflammation in the vicinity, will also accelerate this change, by exalting chemical affinities in a structure whose vital powers are insufficient to resist them. Tubercle is frequently deposited at first in this yellow opaque form; and this is the commencement of a further change—that of maturation and softening into a cheesy substance. During this process, there is a remarkable increase of oil-globules, to which the researches of Mr. Gulliver and others have shewn there is a tendency in all degenerated plasma. This change is partly dependent on the extravascular position and low vitality of the tubercle; but in part also on the adjacent living structures. A miliary tubercle may cause irritation and inflammation, espe-

cially in parenchymatous structures. The effects vary according to the intensity of the excited hyperæmia. "Where the irritation is very slight, it may merely cause so much determination of blood as to promote the growth of the grey tubercle. Where it is more, it may cause the conversion of grey into yellow tubercle, its further increase in this form, and its softening. If the irritation be still greater, inflammation is excited around the tubercle; and its marks are often seen after death in the areolar or vascular redness; and the products of this inflammation (pus, lymph, mucus, serum, etc.) may also hasten the softening of the tubercle, their mixture together, and their evacuation by ulceration into adjoining open surfaces. Or, the product of inflammation being more solid and plastic, consolidations, or false membranes, are formed around the tubercle, and its irritating influence may be thus circumscribed." (p. 394.)

Another change which tubercles are sometimes observed to undergo, is that of calcareous conversion, analogous to the calcareous or osseous transformation of other textures. There seems to be a molecular deposition of the earthy substance, the animal matter being at the same time absorbed. This change is very commonly found in tubercles in the bronchial glands.

The circumstances which lead to the deposition of cacoplastic and aplastic matter, are described as local and general. It does not appear, however, that the local causes—congestion and inflammation—are sufficient to induce the production of tubercle without the co-operation of a general cause—the degraded state of the plasma of the blood. This constitutes the chief element of the scrofulous diathesis or tuberculous cachexia, in which the red particles being deficient, and the fibrin in excess, there is an increased tendency to deposit fibrinous material, often in abundance, but endued with imperfect organizability. Such deposits must be greatly promoted by all kinds of hyperæmia; while even acute inflammation may be unequal to raise the nutritive material to a healthy plastic standard.

The greater liability of the lungs to tuberculous deposits does not appear to Dr. Williams to be dependent on the finer size of their capillary vessels, but on the following circumstances: "1. Their great vascularity, and the large quantity of blood that passes through them, which makes them largely partake of any disorder in the condition of this fluid. 2. Their being a chief seat of the formation of fibrin, that principle being more abundant in arterial than in venous blood. 3. The softness and yielding nature of their texture, which permits effusion to take place more readily than denser textures do. 4. Their exposure to external causes of disease, whether by cold and irritations directly entering by the air-tubes, or by circumstances operating through the medium of the circulation. In hot climates, cacoplastic diseases affect the liver and other abdominal viscera more than the lungs; the same persons there suffering from chronic liver disease and dysentery, who in a cold climate would fall victims to phthisis." (p. 398.)

The action of all acknowledged causes of tuberculous disease can be explained by their effect in inducing a cacoplastic state of the blood. Some, as insufficient food, want of pure dry air, of warmth, and of light, prolonged disease of the digestive organs, insufficient excretion, and the influence of fevers, etc., seem to induce a diminution of red particles and a preponderance of fibrin. Excessive evacuations of blood or the more animalized secretions, and severe courses of mercury, probably act by reducing the red particles, and the quality of the plasma. The cessation of growth, the termination of pregnancy, the amputation of a limb, or the suppression of habitual discharges, seem to increase the proportion of fibrin in the blood, when there is not a sufficient quantity of red particles—and therefore of vital power—to give the fibrin a due amount of elaboration and plasticity.

In the *treatment* of cacoplastic and aplastic deposits, the elements to be chiefly kept in view are: 1. *The disordered condition of the blood, and its causes.* 2. *The disordered distribution of the blood, and its causes.* 3. *The*

presence of the deposit, and its effects and changes. The first of these is the most constant and important ; and we quote the remarks of Dr. Williams on the means of fulfilling the indications here presented. "The first point to be attempted is the removal or counteraction of the several causes before enumerated, as contributing to induce the diseased condition of the blood. Thus, a sufficient supply of food of a nutritive and digestible quality, comprising especially the highest order of proteinaceous articles, free access to a pure dry air and light, while the warmth of the body, particularly of the surface and extremities, is carefully secured by adequate clothing, and regular exercise proportioned to the strength, the removal or counteraction (so far as possible) of diseases impairing digestion and excretion, and of depressing mentally or bodily influences,—are among the first objects to be aimed at in treating cacoplastic diseases. Where excessive losses of blood or other evacuations have contributed to lower the plastic process of nutrition, a generous animal diet, and tonics, especially those containing iron, are especially indicated. Where the altered condition of the blood can be traced to an excess of ill-developed fibrin accumulating after the cessation of growth, the termination of pregnancy, the amputation of a limb, or the sudden stoppage of an habitual purulent or other discharge—means to eliminate the superfluous matter from the blood, either by increasing the natural secretions, or by establishing an artificial drain by blisters, setons, issues, suppurating counter-irritants, etc., are distinctly indicated ; whilst tonic and invigorating measures may be also useful to raise the plasticity of the blood to a higher standard. Some of the remedies to be mentioned in relation to the third indication, are sometimes useful in promoting this object also, such as cod-liver oil, nitric acid, and combinations of iodine, which have direct influence on the nutritive functions." (p. 400-1.)

The second element indicates the remedies for hyperæmia in its various forms ; but the utility of these is chiefly limited to remedies of a topical kind, of which none appear so useful as mild counter-irritants, or rubefacients, regularly applied by friction over a large surface of the body. They operate, not only as revulsives, but also "by increasing a free circulation on the surface, which promotes the purification of the blood by perspiratory excretion, and aids the lungs in the process of arterialization." With regard to the third object, that of promoting the removal or quiescence of the deposit already formed, Dr. Williams remarks that it is more difficult of attainment. It is doubtful whether we possess any means for promoting its removal, unless by the simultaneous destruction of the surrounding textures. Mercury appears to hasten the softening and evacuation of pulmonary tubercles ; but Dr. Williams objects to its use in such cases, its operation being a work of destruction, and its influence on the blood injurious. He has used it with advantage, however, in cases of subacute and chronic inflammation, simulating tuberculous disease, and even when tubercle probably existed in a limited form ; and in incipient cacoplastic or tuberculous deposits in serous membranes, especially the peritoneum. It is doubtful whether mercury is useful in granular disease of the liver or kidneys. Alkalies and their carbonates, and the iodide of potassium, in combination with some amylaceous or mucilaginous material, and some narcotic, appear more useful. Of these, Dr. Williams says : "Whether the iodine and alkali ever directly promote the solution or absorption of tuberculous matter, I am still in doubt ; but the signs of the presence of limited tubercle have, in many instances, diminished during their use, and the patients have regained colour, flesh, and strength." The iodide of iron is often very beneficial in anæmia without much fever or local inflammation ; but it does not appear to promote the removal of tubercle. To promote the solution or disintegration of tubercle, caustic alkalies, especially liquor potassæ, might be supposed to be of some benefit, by combining with the oily matter ; but they cannot be received into the blood in sufficient quantity, and are unavoidably liable to enter into combination

with carbonic and other acids in the body. Acetic acid is liable to a similar objection. The utility of naphtha, oil of turpentine, tar, sulphuric ether, and similar remedies, in promoting the removal of tubercle, seems to Dr. Williams extremely doubtful. Naphtha has proved serviceable in his hands in a very limited number of cases, by checking profuse purulent secretion, and the cough, hectic, and wasting, accompanying it ; but it has the disadvantage of often unduly checking expectoration, and exciting pain, tightness of the chest, and cough, resulting in inflammation or hæmorrhage. Fixed oils are more useful, and can be used in larger quantities ; but most of them are apt to disagree with the digestive organs. Dr. Williams here notices the action of cod-liver oil ; but it is unnecessary for us to analyze his observations on this subject, as they have been presented to our readers in a more extended form in the first Number of this JOURNAL. It is probable that the more salutary of the changes in pulmonary tubercle, and the absorption of the more injurious part of the deposits, may be promoted by maintaining as free and excited a circulation near the affected parts, as can be carried on without inducing actual hyperæmia. "The more active circulation thus excited promotes the gradual solution of the deposits, chiefly by the oxidating current of arterial blood that it directs through their neighbourhood ; and the inquiry naturally suggests itself,—can we aid this process of solution by means which oxygenate the blood more highly than can be done merely by free respiration of pure air ? I have before surmised, that it is probable that such agents as nitric and nitro-muriatic acid and chlorate of potass, may contribute to this object ; and I now mention them, because I have found their continued use benefical in many cases after inflammation, in which circulation and absorption were slack, and cacoplastic effusions were accumulating and threatening mischief. So likewise in scrofulous and tuberculous disease, during the maturation and softening of the deposits, these oxygenating medicines sometimes produce decided improvement in the general and local symptoms. Their utility is limited by their tendency to irritate the alimentary canal when given largely or continued long ; but they may commonly be advantageously used at intervals, when courses of cod-liver oil or of iron and other tonics are interrupted." (pp. 405-6.)

MORBID GROWTHS are next treated of, under the heads of Non-malignant and Malignant ; but the concise and instructive remarks on these we are compelled, by want of space, to pass over. A short section is next devoted to the exemplification of the principal DISEASES OF MECHANISM.

Chapter V is devoted to the CLASSIFICATION, SYMPTOMS, and DIAGNOSIS OF DISEASES, and commences with an explanation of the objects of NOSOLOGY. In the section on SEMEIOLOGY, Dr. Williams defines the term *sign* as implying generally anything by which the presence of disease may be made known ; and *symptom*, as a phenomenon which becomes obvious in the course of disease, often proving to be a sign, but frequently of too uncertain connexion with a particular disease to be considered as such. He prefers the more specific designation of *physical signs* and *vital symptoms*.

Physical Signs are "those physical properties of the body, or of a part of it, which are perceptible to any of the senses of the observer." The power of determining the difference between the signs of health and those of disease, depends on our knowledge of the former ; and this may be derived—"1. From general observation or experience of healthy standards ; 2. From anatomical and physiological knowledge of what the state of health ought to be ; or, 3. From a particular knowledge of the standard of health in any individual case." (p. 434.) A comparison of parts which are naturally symmetrical is a standard that is frequently available, as in the limbs or chest ; but when organs are not symmetrically placed, as the liver, a previous knowledge of their natural structure, position, and physical properties, is necessary. We must also be acquainted with the healthy mechanism and functions of the organs of respiration, circulation, digestion, and excretion. It is important, also, to have a knowledge of physical laws : and on this point we quote Dr.

Williams' observations. "Physical signs are phenomena taking place in the body, in accordance with physical laws. It is therefore obvious, that a knowledge of these laws, as well as of the mechanism of the body, will assist us to interpret these phenomena; to explain of what they are signs, how they are caused, the variations which they may present, and the best mode of appreciating them. Thus, an aneurism of the arch of the aorta may be chiefly detected and studied through the physical signs which it produces. It forms a tumour under or near the top of the sternum, pulsating in a distinct manner, and with a peculiar sound; this tumour may press on the air-tubes in such a way as to alter their shape, and by partially obstructing the passage of the air through them, may also change the sound of breathing in a particular way: by compressing the veins, it may also throw their current into unusual sonorous vibration; or by a more complete obstruction, it may cause the veins to swell in a remarkable degree above the tumour: by its enlargement, the aneurism encroaches on the lungs, the walls of the chest, the muscles, nerves, bones, ligaments, etc., in such a way, as to alter their physical properties and positions, and thus to produce various physical signs. Now, all these physical signs are phenomena produced in the altered mechanism, according to certain laws; and it is plain, that a knowledge of these laws must greatly assist us to understand the signs, and to trace them to their true causes. Nay, even the aneurismal tumour itself, in its production, increase, and intrinsic signs, can be rightly understood only through a knowledge of hydraulics and dynamics, in connexion with the structure of the heart and arteries in health and disease." (p. 436.)

Vital Symptoms are those phenomena which depend on the vital properties of a part or parts of the body. These properties, irritability, tonicity, sensibility, secretion, etc., and the more complex functions arising from their combination, produce, in a natural state, the symptoms of health; but when in excess, defect, or perversion, the symptoms of disease. Vital symptoms are also to be found in the state of the various functions of the body: for instance, valuable information is to be derived from the pulse, the skin, the tongue, and the alvine and urinary excretions. To understand the symptoms, an accurate acquaintance with the structure and functions of the healthy and diseased body is necessary; and the applicability of symptoms to semeiology and diagnosis will become more complete as our knowledge of physiology and pathology is advanced. In the mean time, their value must, in many cases, be determined empirically, by *the statistical* or *numerical* method; but here we should take care "that the number of observations be very large, that they should be applied to similar cases, and that the majorities which establish the rule should very greatly predominate over the exceptions." The importance of attending to the respective value of physical signs and vital symptoms, is clearly pointed out by Dr. Williams, who observes: "It is obvious that both classes of signs ought to be carefully taken into account; and the more fully the physical and vital properties which constitute them are understood, the more available will signs and symptoms be to instruct us as to the nature and treatment of disease." (p. 441.)

Diagnosis has for its object "to determine either the intimate nature and seat of a disease, or its name and place in a classification of phenomena, grouped under the name of special symptoms." (p. 442.) It should be, as far as possible, founded on pathology: but as this is imperfect, the numerical method must often be employed: and, in some instances, the causes and treatment of the disease give aid in the diagnosis. It may be *general or special;* the former comprehending the distinction between the principles or elements of disease; the latter relating to the distinction of diseases according to their chief seat, where they have one, or according to some other specific difference, where they have not. Special diagnosis often also follows and distinguishes diseases in their further differences of seat or character. Dr. Williams gives three problems illustrating the mode of investigating and distinguishing diseases in different cases. 1. "General pathology having

pointed out the general nature of a disease, it is required to determine its precise seat"; as in pneumonia. 2. "Previous history, prominent symptoms, or physical signs, having pointed out the seat of a disease, it is required to determine its nature"; as in the diagnosis of gastrodynia from gastritis. 3. "Symptoms being too few or too inconclusive to lead the diagnosis, both the seat and nature of a disease are to be determined"; this is a common case, and is exemplified in the diagnosis of symptomatic from typhoid fever. Thus is illustrated the importance of being acquainted with every department of medical knowledge. "Natural shrewdness and tact," says Dr. Williams, "with some general knowledge of the nature and treatment of disease, may sometimes enable a comparatively ignorant person to practise medicine with an appearance of success; but such a person can make no hand of diagnosis; and he wisely either evades the whole subject or expresses his opinions in vague terms, and scrupulously avoids their being brought to the test of the scalpel. The well-informed practitioner, on the other hand, feels that this is the subject which requires the full application of his mental powers and knowledge, as well as the keen exercise of his powers of observation; and, in proportion as his senses are practised in observing, his information well arranged in relation to what he observes, and his judgment matured in discriminating and deciding the results, so will he be successful in diagnosis, and in applying it to prognosis and practice." (p. 445.) In investigating the symptoms of a case, it is of importance to attend to the *aspect* of the patient, to become acquainted with his *previous history*, both in health and disease, and with the *cause and mode of commencement and progress of the present attack*. In investigating the present state and symptoms, *all* the functions of the body, whether stated or not by the patient to be diseased, must be made severally the objects of careful examination. The object of this is "not merely to determine the particular disease under which the patient labours, but to discover what is healthy as well as what is morbid in his condition. The prognosis, or estimation of the amount and event of the disease, and the application of treatment, require this full investigation. We have to consider, not merely *disease in the body*, but *the body in disease;* and it is by losing sight of this great practical axiom, that minute or microscopic inquirers, who may be singularly successful in special diagnosis, signally fail in prognosis and in practice." (p. 446.)

Chapter VI is devoted to PROGNOSIS, or Foreknowledge of the Results of Disease. After some instructive observations on empirical and rational prognosis, Dr. Williams enumerates, with examples, the circumstances from which a rational prognosis may be formed. These relate partly to the patient, and partly to the disease; and are,—the age, sex, temperament, previous and present diseases, and previous habits of the patient, with his condition at the time of the attack; the cause of the disease, its situation and nature, extent and progress, and the character of its symptoms.

The chief modes of DEATH are thus enumerated:—

Death (cessation of function) beginning at the heart { Sudden = syncope. / Gradual = asthenia.
— — beginning at the breathing apparatus = Asphyxia or apnœa.
— — beginning at the brain = Coma.
— — beginning at the medulla = Paralysis.
— — beginning in the blood = Necræmia (*νεκρός, dead; αἷμα, blood.*)

Death by CARDIAC SYNCOPE may occur either—1. By the heart losing its irritability, and ceasing to contract; or—2. By its being affected with tonic spasm so as to remain rigidly contracted. In the former case, the heart is distended with blood; in the latter it is contracted and empty, and this state was long mistaken for concentric hypertrophy, till its true nature was pointed out by Cruveilhier and Dr. G. Budd. Both these arise from somewhat similar causes. Death by ASTHENIA is the mode of termination of many diseases which exhaust the strength, without directly interfering with the more vital functions. The symptoms of this mode of death, as well as by APNŒA, COMA,

and PARALYSIS, are ably and lucidly described. The last form mentioned is death by NECRÆMIA, in which the chief and most remarkable change is exhibited by the blood. This occurs especially in typhoid and other malignant and pestilential fevers, in which the presence of blood-disease is indicated by petechiæ and vibices, internal hæmorrhages, the fluidity of the blood, and its frequent unusually dark colour and tendency to pass into decomposition. We quote Dr. Williams' vivid description of this mode of death in its most marked form: "The blood, the natural source of life to the whole body, is itself dead, and spreads death instead of life. Almost simultaneously, the heart loses its power, the pulse becoming very weak, frequent, and unsteady; the vessels lose their tone, especially the capillaries of the most vascular organs, and congestions occur to a great amount; the brain becomes inactive, and stupor ensues; the medulla is torpid, and the powers of respiration and excretion are imperfect; voluntary motion is almost suspended; secretions fail; molecular nutrition ceases; and at a rate much more early than in other modes of death, *molecular* death follows close on *somatic* death—that is, structures die and begin to run into decomposition as soon as the pulse and breath have ceased; nay, a partial change of this kind may even precede the death of the whole body (somatic death—Dr. Prichard); and the fœtid aphthous patches in the throat, the offensive colliquative diarrhœa of persons in the last stage of various fatal diseases; parts running into gangrene, as in the carbuncle of plague, the sphacelous throat of malignant scarlatina, and the sloughy sores of the worst forms of typhus, and in the large intestines in dysentery, or the putrid odour exhaled even before death by the bodies of those who are the victims of similar pestilential diseases,—are so many proofs of the early triumph of dead over vital chemistry." (p. 466.) This is an extreme case; but many lower degrees arise from endemic, epidemic, and infectious influences, certain animal and vegetable poisons, as that of the most venomous reptiles and fungi, and probably some mineral poisons, as sulphuretted hydrogen, selenium, and, in part of its operations, arsenic. These may at once produce death; or the vital powers may react in various degrees. This reaction may be successful in removing the poison; but it may also induce serious organic mischief, and some other form of death. A due state of activity of the excreting organs is often beneficial in carrying off the offending matter, when it is small in amount; and it is those persons in whom the functional activity of these organs is impaired, that are the worst subjects for blood-diseases. Necræmia may also originate within the body, from causes which, in a more limited degree, would induce cachæmia. The general symptoms of death by necræmia are commonly of the class called typhoid, putrid, or malignant. They are thus enumerated: "a congested appearance of the whole surface, the colour being dusky or livid, and extending to the conjunctivæ, tongue, and fauces; various slight exanthematous or papular patches on the skin, often with petechiæ; more extensive hæmorrhages in form of ecchymoses, or oozing of thin bloody fluid from the gums, nostrils, and sometimes from other passages; extreme prostration of strength, with an obtuse state of all the senses and mental faculties, sometimes combined with delirium and twitchings of the limbs; half-closed eyes and dilated pupils; a very frequent, weak, and soft pulse; frequent and unequal respiration; no appetite; intense thirst; a dry, brown tongue, with dark sordes on the lips and teeth; a progressive fall of temperature, which may have been elevated at first; often cold, clammy, and fœtid perspiration; hiccup; subsultus tendinum; scanty, offensive urine; involuntary discharges." (p. 468.)

We had intended to complete this notice of Dr. Williams' *Principles of Medicine* in the present number; but we find that the attempt would prevent us from doing justice to the valuable chapter on HYGIENICS, which next follows. We therefore defer the conclusion of our analysis.

(To be continued.)

DICTIONARY OF PRACTICAL MEDICINE: comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, and the Disorders especially incidental to Climates, to the Sea, and to the Different Epochs of Life; with numerous Prescriptions for the Medicines recommended; a Classification of Diseases according to Pathological Principles; a copious Bibliography, with references; and an Appendix of approved Formulæ; the whole forming a Library of Pathology and Practical Medicine, and a Digest of Medical Literature. By JAMES COPLAND, M.D., F.R.S. Parts xiii and xiv. London: 1849.

In the Parts we have now before us, we find articles extending, in alphabetical order, from Poisons to Schirrhous Tumours: and when we say that they are of such a character as to justify the description of the work which we have just quoted from the title-page, we have awarded praise of no ordinary kind. Dr. COPLAND is indeed one of the most remarkable of living authors; he not only brings to bear upon his subjects a vast—we had almost said an excessive—amount of erudition, but he illuminates and brings home all this learning to the mind of the reader, by the soundness with which he applies his personal experience. For one author, single-handed, to have undertaken this comprehensive Dictionary of Practical Medicine, is not remarkable; for perhaps there are many who think they could do it as well as, or even better than, Dr. Copland; but no one who understands the magnitude of the labour, can collate this work with others of a similar kind, without being astonished at its general excellence, and its pervading superiority.

It would be misplaced, even were it possible, to introduce in this place anything like a critical analysis of the different articles; for they themselves may truly be regarded as analytical digests of the best researches on each subject.

We are somewhat surprised to observe, that "SCARLATINA RHEUMATICA, or Eruptive Articular Fever", is described as a distinct disease, the product of a different morbid poison from Scarlet Fever. We have always regarded rheumatic scarlet fever as a mere variety of the disease; and we think, that during the late epidemic, this fact must have become pretty evident to all who were in the habit of seeing Scarlatina from day to day, in its progress through families and districts. In the same family, under the same roof—and, we are constrained to believe, arising from the same contagion—we have seen cases attended with the most intense articular rheumatism, occurring along with others, in which there were either no rheumatic symptoms at all, or in which they were trifling, when compared with those depending on the state of the throat, etc. There is one circumstance, however, in our experience which, in the opinion of some, may disconnect the two affections; and that is, the modification which the rheumatic tendency seems to exert upon the eruption. It generally consists of red blotches, mingled with large patches of urticaria, and is most abundant over, and in the vicinity of the joints. This was the character of the eruption in all our severe rheumatic cases; but we are not aware that this distinction has been pointed out by authors as existing between rheumatic and non-rheumatic cases of scarlet fever, although the relation which exists between urticaria and rheumatism is generally recognized.

FIRST PRINCIPLES OF MEDICINE. By ARCHIBALD BILLING, M.D., A.M., F.R.S. Fifth Edition, revised and improved. London: 1849.

The high reputation which Dr. BILLING's work on the Principles of Medicine has long sustained, and the lengthened notice we are in the course of giving of Dr. C. J. B. Williams' book on the same subject, renders it unnecessary to furnish an analysis of the former. While, however, we acknowledge its merit, as setting forth the views which the author has been led to entertain from a lengthened clinical experience, we think that the work might be ren-

dered still more on a level with the present state of physiological and pathological knowledge, and more adapted to the wants of the junior members of the profession. A division into chapters would be desirable ; and some preliminary remarks on the ultimate pathological elements would greatly facilitate the understanding of subsequent portions of the book. From some of the physiological views of Dr. Billing, we must express our dissent. Thus, at p. 21, he states that the carbon which is set free from the tissues, undergoes combustion in the lungs. We thought that this matter had been long ago set at rest. Some of his ideas, also, on the means by which the right auricle is filled, are such as we can be scarcely led to adopt. Though the author is, certainly, at times at variance with established physiological opinions, nevertheless much valuable information, especially on the subject of therapeutics, may be obtained from a perusal of his work ; and we would recommend it as one of the books which a medical practitioner may advantageously consult, with the object of enlarging and consolidating his principles of treatment.

Clinical Midwifery : comprising the Histories of Five Hundred and Forty-Five Cases of Difficult, Preternatural, and Complicated Labour ; with Commentaries. By Robert Lee, M.D., F.R.S. Second Edition, pp. 228. London : 1848.

This edition contains forty-five additional cases of Difficult, Preternatural, and Complicated Labours, which have come under the observation of the author, during the five years which have elapsed since the first appearance of the work. The book is divided into eight Reports :—1. Observations on the present state of Operative Midwifery ; and the history of eighty cases in which the Forceps was employed. 2. Difficult Labours from Distortion of the Pelvis, Swelling of the Soft Parts, Convulsions, Hydrocephalus in the Fœtus, and other cases in which Delivery was effected by Craniotomy. 3. Induction of Premature Labour, in cases of Distortion of the Pelvis, etc. etc. 4. Histories of 101 cases of Preternatural Labours. 5. Histories of 63 cases of Placental Presentation. 6. Histories of 44 cases of Uterine Hæmorrhage in the latter months of Pregnancy, during Labour, and after Parturition. 7. History of 35 cases of Retention of the Placenta. 8. History of 48 cases of Puerperal Convulsions.

It rarely falls to the lot of one man to have witnessed so many cases of Difficult, Preternatural, and Complicated Labours, as Dr. Lee has seen ; and, when we recollect that, numerically considered, such cases form a very insignificant portion of labours, we have evidence that Dr. Lee occupies, in the estimation of his brethren, the foremost rank among consultants in obstetric emergencies. From such an author, we would have liked a terse and succinct running commentary upon the cases ; and we hope, that in a future edition, Dr. Lee will incorporate with the detail of cases, some rules of practice. In its present form, the work is only adapted to the somewhat experienced physician ; but it might easily be rendered an invaluable clinical guide to the student and junior practitioner.

The Results of all the Operations for the Extirpation of Diseased Ovaria, by the Large Incision, from September 12, 1842, to the present time ; to which is appended an Essay on the Diagnosis, Prognosis, and Treatment of Ovarian Diseases. By Charles Clay, M.D. Manchester : 1848.

In the work before us, Dr. Clay gives an account of the whole of the abdominal sections in which he has been concerned up to the date of publication, being forty in number. He thus expresses the results in a tabular form :

	Died.	Recovered.
1 Large fleshy tuberculous tumour of the uterus	1	0
1 Large uterine disease, combined with disease of both ovaries	1	0
1 Large disease of one ovary, with uterine disease	1	0
32 Ovarian tumours	10	22
5 Exploratory incisions	1	4
	14	26

It appears, therefore, that out of forty cases in which the section was performed, fourteen, or more than one-third, died: which, we consider, is an amount of mortality sufficient to prevent any operation from being considered legitimate, unless when performed for the purpose of rescuing from inevitable death. Now, it is well known, that by means of abdominal support, ovarian dropsy may, in a large number of cases, be rendered only an inconvenience, and not a source of danger; and we think that Dr. Isaac B. Brown and others have shown, that by the proper application of pressure, many cures may be actually effected.

Our principal objections to Ovariotomy are, 1. The extreme difficulty of forming an accurate diagnosis; 2. The occasional occurrence of spontaneous cure;[1] 3. The success which has attended the treatment by pressure; 4. The disease not being necessarily fatal in itself; 5, and lastly, the great mortality which has attended the operation, in the hands of men of undoubted skill. We will not go so far as to say, that the operation is one which ought never to be performed; but we do say, that it ought rarely to be had recourse to, and that there are very few of Dr. Clay's cases in which it ought to have been attempted. In thus strongly denouncing Ovariotomy, as a general means of treating ovarian tumours, we must, at the same time, state our hearty approbation of the candid manner in which Dr. Clay has laid the results of his experience before his professional brethren. Though we greatly differ from him on the subject of Ovariotomy, we do not the less esteem him as a worthy labourer in that department of science, which he especially cultivates; and to the literature of which his little book must be received as a valuable contribution.

We observe the following manuscript addendum, in the copy which has been sent to us for review:—"Case xli. Mrs. Gregory, *successful*, now quite well; operated on June 12th, 1849."

Portraits of the Diseases of the Scalp, with the Safest and most Efficient Modes of Treatment. By Walter Cooper Dendy, Senior-Surgeon to the Royal Infirmary for Children. 4to. London: 1849.

These portraits are not striking likenesses of the diseases the names of which they bear. The treatment inculcated is generally sound: but taking the work all in all, it hardly surpasses mediocrity. We regret being obliged to say so; but we must speak of books as we find them. Mr. Dendy being undoubtedly a man of talent, and a good practitioner, it is remarkable that he should have authorized the present publication.

Proceedings of the Westminster Medical Society, Nos. I, II, and III. London: 1849.

The Westminster Society received a large accession of new members during last session; from which cause, and the value of the papers read before it, an authorized version of its proceedings is now issued. The three numbers which have appeared contain much valuable matter. We propose, in future, regularly to report the meetings of this Society; and in our next number will give an account of what was done during last session.

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[1] Vide Dr. Hughes Bennett's case, p. 285 of this Journal for March.

Parturition, and the Principles of Obstetrics. By W. Tyler Smith, M.D. London: 1849.

(Continued from p. 656.)

In Lecture Eighteenth we find an interesting exposition of Extra-Uterine Reflex Actions of an Abnormal Character, occurring before, during, and after Parturition. Dr. T. Smith truly remarks that "within proper limits, all the extra-uterine actions excited by parturition are as beneficial as the actions of the uterus itself." The diarrhœa and diuresis which frequently occur during the first few days after delivery, are correctly stated to be *salutary*. "In patients," says the author, "who have suffered from albuminuria during pregnancy, or whose extremities are affected with œdema, the increased action of the kidneys is most beneficial." (p. 262.) There can be no doubt, we think, that this is often Nature's method of averting toxæmic puerperal convulsions, abundant alvine and renal excretions being in some special cases required, in supplement to the lochial discharge.

Irritative Cough, often so troublesome after delivery is thus described: "This cough is accompanied by constant irritation of the throat and larynx. It is generally more relieved by food and the pressure of the abdominal bandage, than by sedatives or the ordinary means of allaying cough. I have seen it produce more inconvenience than even severe after-pains. It particularly interferes with the sleep and repose so necessary to recruit the strength of patients recently delivered. Each time that the patient sinks into insensibility, she is roused by a painful sense of strangulation, and a prolonged fit of coughing. The cough is purely irritative, being quite unconnected with inflammatory action or increased secretion in the larynx or bronchi. This form of cough, if allowed to continue, becomes most troublesome a day or two after delivery, at the time when the secretion of milk from the breasts is fully established. Some women suffer from this affection in a more moderate form during the whole of lactation, particularly after suckling the child, and before taking food." (pp. 262-3.)

The Relation of the Uterus to the Mammæ, with reference to the influence which the former has on the secretion of milk, was spoken of by Dr. Smith, when describing the genesial cycles of ovulation, gestation, and lactation: it is again alluded to in the present chapter, with reference to the sensation of the "draught" in the breasts, which may be considered as "a part of the after-pain." In a practical point of view, this is an important fact; and one which we believe is now generally acted on. We mean, that when there is uterine inertia after delivery, with retained placenta, or too profuse hæmorrhagic discharge, the application of the infant to the mammæ often proves an immediate excitor of uterine contractions, and, consequently, a source of safety to the mother. We have seen the benefit of this practice in not a few cases.

Motor Action belongs to the Orifices of the Milk Ducts. Even in the virgin, a decided amount of erection may take place in the nipple: and this "could not take place unless there was some motor provision for retarding the return of the blood." Dr. Smith is inclined to believe that rudimentary constrictor muscles exist in the human female—*lactatory sphincters*, similar to what Professor Owen has discovered in the platypus: and from the various well-known facts which Dr. Smith recites in proof of this view, there can be no reasonable doubt of its correctness. We must not omit to notice a very important practical point which serves to corroborate this opinion. Cold water is the best application to sore nipples, and when combined with rest to them, is generally sufficient to effect a cure. This fact we learned long ago from an eminent accoucheur; and we have since found the treatment of great benefit in enabling women to nurse, who were reluctant to attempt it, on account of the agony excited by the infant. We think that Dr. Smith's remarks fully and satisfactorily explain why the simple treatment alluded to

should be pre-eminent over all others. He says: "In some cases of sore nipple, it has appeared to me, that the irritation which should dilate these orifices, being present to a morbid extent, excites them to painful contraction instead of physiological dilatation. Cooling applications, rest to the nipple, by partially feeding the child for a short time, or the use of an artificial nipple, are the proper remedies, instead of ointments, and astringent applications." (p. 266.)

In Lecture Nineteenth, the following subjects are discussed:—Natural and Morbid Conditions of the Reflex Function in the Infant at the time of Birth: The influence of Muscular Tone: The Colostrum: The Meconium: Icterus Neonatorum: Suction and Deglutition: Infantile Mammæ: Morbus Cæruleus: Tetanus Nascentium: and Congenital Contractions of the Extremities.

Suction is an act entirely independent of the cerebrum. The author "has seen the movements of sucking, performed by an acephalous fœtus, as perfectly as by a well formed child." (p. 271.) With the development of the teeth, mastication becomes substituted for suction, which becomes lost (or nearly so) as a reflex function. The observations which Dr. Smith makes on suction and deglutition are eminently suggestive; and he well remarks: "An analysis of the earliest and purely reflex and physical movements of the fœtus and infant, will form a most interesting chapter at the very threshold of psychology, and one which is as yet entirely unwritten."

Morbus Cæruleus, Dr. T. Smith says, "can hardly be considered as a motor derangement. It arises from the mechanical continuance of the open state of the foramen ovale, and the consequent admixture of the blood of the two sides of the heart. The cause of the convulsions occurring in this condition is obscure. They may be referred either to irritation of the heart itself, or to the circulation of venous or mixed blood in the arteries. But it is less important to discuss this malformation and its consequences, as they are almost beyond the reach of remedies." We can neither fully participate with Dr. Smith as to the obscurity of the cause of convulsions, nor in the opinion that morbus cæruleus is almost beyond the reach of remedies. It is irremediable, when there is such malformation of the heart as constitutes a structural impediment to the closure of the foramen ovale;[1] but when there is not this anatomical difficulty, and when the patency of this fœtal conduit persists, as it often does, from physiological and not from anatomical causes, the morbus cæruleus, with its concomitant convulsions, may be cured, and threatening death averted. Some time ago we were consulted in the case of a puny infant about eighteen hours old, who had a blue colour, and on being put to the breast, was always seized with convulsions. The temperature could with difficulty be kept up. We were informed that the infant had only cried feebly. The medical attendant had given, without any reservation, his opinion that the child had malformation of the heart, and must die in one of the fits. Imagining that the symptoms arose from imperfect expansion of the lungs, and that one forcible inspiration might suffice to inflate them, and also to abolish the remains of the peculiarities of the fœtal circulation, we had the infant wrapped up in hot moist flannels, and having for an instant bared the chest, we dashed ice-cold water over it and the face. The effect was all that could be wished; the infant cried with energy; and upon examining the face and surface generally, a few minutes afterwards, we had the delight to see that the blue colour had nearly disappeared. A slight convulsion returned on its being applied to the breast; and during ten or twelve hours, the skin was bluer than natural. Twice or thrice, the operation with the warm and cold water was repeated; and in two days the infant was entirely free from all symptoms of the blue disease, and still lives—a healthy, but not robust child. This case indicates the hopefulness of proper and speedy treatment: and also explains the nature of the convulsions, at least in one instance—and that probably, a fair example of this class of cases. In that case the convulsions were entirely

[1] This irremediable condition is often the result of fœtal endocarditis.

those of asphyxia: and in two other cases which we had frequent opportunities of observing during life, and of dissecting after death, the symptoms and post-mortem condition of organs very clearly pointed to asphyxia as the cause of the convulsions. Along with the open foramen ovale, there was pulmonary congestion: and a considerable portion of both lungs had never been penetrated by air. It may be said, that the admixture of the venous with the arterial currents in the heart may cause the convulsions, by a toxæmic influence on the spinal centre; and we cannot deny that some part of the phenomena may depend on this cause. The treatment still remains the same—to excite inspiratory movements sufficient fully to inflate the lungs; which is not only beneficial as regards the lungs, but is also the best means of causing complete abolition of the remaining fœtal peculiarity of an open foramen ovale.

Congenital Club-Foot and Deformities of the Hand, Dr. Smith correctly regards as exaggerations or perpetuations of the tonic contraction which is natural in utero. Every one who has been in the habit of examining newly-born infants, must have been struck with the frequent contracted condition of their hands and feet: and it is easy to see, how the natural tone of the fœtal muscles may be converted, by its persistence in extra-uterine life, into such a pathological condition as talipes. "Many," says Dr. T. Smith, "of the deformities of youth, and some of the operations of orthopædic surgery would, I strongly suspect, be saved, by attending to the conditions of the limbs of infants soon after birth, and at the time of the first attempts at walking." The importance, in this respect, of the latter epoch is proved by what takes place when the infant places his feet on the ground:—they "fly off from the surface," in consequence of the excitement of reflex action.

In Lectures Twentieth, Twenty-First, Twenty-Second, and Twenty-Third, we have one of the ablest discussions on the subject of Puerperal Convulsions with which we are acquainted. We say this, though not entire converts to every physiological doctrine and corollary propounded. In the main, we have no doubt Dr. Smith is correct; and so far as treatment is concerned, his remarks carry us entirely with him: they point to the use of remedies through principles; they are well calculated to give a precision to the views of the educated practitioner, and to enable him to treat each case on its own merits, and not after the ignorant routine of empiricism, or in blind obedience to the often inapplicable dogmatism of esteemed authors. The young practitioner who does not daily study disease at the bed-side, is too apt to think that for *a* disease there is *a* treatment—a fatal mistake, which causes not a few talented physicians to drift upon the shoals of empiricism, whence they are very easily swept into the melancholy vortex of medical scepticism. Such men are useless at the bed-side—to which, fortunately, they are seldom summoned. The physicians who fail through scepticism are numerous; and they are commonly those who, judging from a few accidental cases of prosperity, fondly dream that a crowd of patients are sure to come to them at the end of ten or twelve years, provided that period be passed in orthodox "purity," and ostentatious expenditure in some fashionable street or square, varying, perhaps, the monotony of professional idleness, by an occasional run of the amateur practice of a dispensary. A correct knowledge of disease cannot be so obtained: and the management required in the sick rooms of the comfortable classes, can never be adequately learned in desultory pauper practice. We were led to make these remarks from the satisfaction we felt at observing that Dr. T. Smith is no disciple of *the faithless sect* of the school of Young Physic; that he has an enlightened trust in remedies judiciously applied, in accordance with the lights of physiology, and the results of clinical study. We extract his remarks on the

Treatment of Puerperal Convulsions. "*Bloodletting.* The action of bloodletting on the spinal marrow is greatly modified by the condition of the circulation. In fulness of the vascular system, it is the most powerful sedative of spinal action we possess. Hence, venesection is the grand remedy in the simpler form of puerperal convulsions, where the disease chiefly depends on stimulation of the spinal marrow by excess of blood, or on the

mechanical pressure exerted by the blood on that organ, together with the counter-pressure of the distended brain on the medulla oblongata. In such cases, bleeding should be performed with a view to its sedative action on the spinal marrow, and to avert the mechanical effects of vascular pressure from this organ. Alone, it will frequently be sufficient to subdue the disease, particularly when the fits come on before the beginning of labour, or after delivery. But another most important intention of bloodletting should never be lost sight of—namely, that of preserving the brain from injury during the convulsion. Besides the *primary* cerebral congestion, which may have been the cause of the attack by its counter-pressure on the medulla, the convulsive action itself, with the glottis closed, and the various sphincteric actions in operation which were considered in the former lecture, exerting great muscular pressure on the whole vascular system, and causing, as they must, the greatest turgidity of the vessels of the head, are dangerous sources of fatal cerebral congestion, or of serous or sanguineous effusion. As in the case of epileptics, women in puerperal convulsions frequently die of apoplexy, produced by the immense pressure exerted on the cerebral column of blood during the fits. It is in great measure from the effects of bloodletting, in warding off accident from the brain, that bleeding is so universal in this disease. The due recognition of the distinct operation of bloodletting on the cerebral and spinal systems is of the utmost consequence. In plethoric states of the circulation, it is in this disease *curative* in its action on the spinal marrow, *preventive* in its action on the brain. In the absence of definite ideas regarding the effects of bloodletting in this malady, it has been often pushed to excess, or practised where it should have been altogether avoided. In the numerous cases where, besides vascular excitement of the spinal marrow, severe irritation of spinal excitor nerves exists as a conjoined cause of convulsion, repeated bleedings will often fail to subdue the disease, unless the *eccentric* irritation be at the same time removed. When irritation of the uterus, the rectum, or the stomach, is in part excitor of the convulsion, bleeding *alone* cannot be relied on. It may at first diminish the impressibility of the *central* organ, rendering it less susceptible of the incident irritation, but if persisted in to a large extent without the removal of the *eccentric* irritation, it becomes in the end positively injurious, by increasing instead of diminishing the excitability of the spinal marrow. In vascular plethora, depletion is undoubtedly a sedative to the spinal system, but when the circulation is reduced considerably below par, loss of blood becomes an actual stimulant to this organ. Hence it is, that the reports of those who have most pertinaciously followed bloodletting, exhibit the loss of a greater number of patients than those who have been more cautious in this respect. The propriety and extent of venesection must be estimated, then, not by the violence of the disease, but by the state of the circulation in the interval of the fits, and with especial reference to the different effects of vascular plethora and vacuity upon the spinal centre. I should avoid these manifest repetitions had I not thoroughly convinced myself, that patients rightly bled in the first instance are frequently subjected to successive depletion, until loss of blood itself becomes the cause of the final seizures. Nothing is, I believe, more certain to remove this deplorable source of mischief than the distinct perception of the effects of venesection on the spinal marrow, the true organ of puerperal convulsion. Similar remarks would apply with almost equal force to the other parts of the common antiphlogistic regimen. Nearly allied to the *modus operandi* of bleeding are the effects of nauseating doses of emetic-tartar, which have been found so serviceable in the treatment of puerperal convulsions by Dr. Collins. It is more than probable, that this remedy acts as a sedative on the spinal system through the medium of its effects on the circulation. In the convulsion occurring in delicate anæmic women, bleeding is generally inadmissible, becoming, in fact, under such circumstances, an exciting cause of the disease. Still, in

cases approaching to this state, cautious bleeding may be sometimes necessary to *preserve* the brain from injury, but here venesection requires to be followed promptly by stimulants: such cases are, however, rare in comparison with those in which fulness of the circulation exists at the onset of the disease.

"*Dilatation of the Glottis.* During the attack of the convulsions the glottis is partially or entirely closed. The greatest authority on this point, Dr. Marshall Hall, questions if true convulsion could ever occur without this state of the glottis, and the cerebral and spinal congestion which it occasions. We know that the epileptic attack is sometimes warded off by the dash of cold water on the face or chest, so as to excite a sudden inspiration and the dilatation of the glottis. It is on the same principle, that of exciting a strong inspiratory act, that we stimulate the nostrils or sprinkle the face with cold water in syncope. Excitation of the incident nerves of inspiration has in the same way been known to prevent the puerperal convulsion. Harvey gives an instance in which stimulation of the trifacial nerves within the nostrils recovered a woman who became comatose during labour. Denman also relates an interesting case, in which a convulsion was excited during every labour pain, but in which he kept off the attacks, until delivery was completed, simply by throwing cold water on the face with a bunch of feathers at each accession of pain. It was found that this mode of proceeding, from which he augured so favourably from its effects in this and other cases, did not prove equally efficacious on all occasions. He observes, that this is 'a safe remedy,' which cannot be said of all measures resorted to in this disease. It must certainly be productive of benefit in cases where the glottis is not so firmly locked as to render its dilatation by this means impossible. Even if it does nothing to prevent the accession of the fit, every time we can dilate the glottis, and cause a full inspiration, we take off a considerable amount of vascular pressure from the nervous centres, and lessen the proportion of venous blood in the system.

"*The Application of Cold.* Cold, applied to the head in the form of napkins, lightly wrung out of cold or iced water, ice itself, or a full stream of cold water poured from a height, has become an approved remedy in puerperal convulsions. It therefore becomes an interesting question—How does cold thus used act on the nervous system? It may act as a sedative on the cerebral portion of the spinal marrow, or it may lessen the distended state of the cerebral circulation, and thus relieve the counter-pressure of the brain on the intra-cranial portions of the spinal system. Probably, it acts in both of these modes. When used in the form of the continuous douche, as sometimes recommended, it would, in addition, tend to excite acts of inspiration, and thus dilate the glottis. The primary sedative action of cold on the spinal centre would seem to be shown satisfactorily by the reputed good effects of cold applied to the whole length of the spinal column in tetanus. The application of cold to the spine, as well as to the head, may hereafter be found beneficial in puerperal convulsions. Whenever cold in any form is resorted to, its use, except for the purpose of exciting the respiration, must be continuous, as the intermittent application of cold, locally or generally, would excite instead of allay the spinal system. The benefit derivable from cold, appears to arise from its local action on the nervous centres, because in tetanus, the purest form of increased morbid spinal action, cold applied to the spine is serviceable, whereas, when applied to the whole surface of the body, it is extremely dangerous, and even fatal.

"*Administration of Opium.* It is an object of very great therapeutic importance to ascertain the true effects of opium on the spinal system. One author maintains that opium diminishes the contractions of the uterus in after-pains; another, that it increases their energy. Some recommend it in uterine hæmorrhage, as an efficient means of exciting uterine contractions; while some blame its administration, on the plea that it produces uterine

inertia and hæmorrhage. Some, again, maintain that it retards, and others that it accelerates, the progress of labour. With respect to the propriety of its use in convulsions, there is a great discrepancy of opinion. Though we may not yet have sufficient data to form a perfect and decisive judgment, I believe we can at the present time make a very considerable advance in the right direction. When the amphibia are in a state of narcotization from opium, the whole excito-motor system is exalted to an intense degree. The slightest irritation of the surface of the body produces universal convulsions. If this fact were applicable to man, it would be an argument to show that it is a powerful spinal stimulant, as it certainly is in the amphibia. In the state of narcotization by opium in man, there is no positive evidence that the incident spinal nerves are more excitor than at other times; still, in poisoning by opium, convulsions occur, particularly in children, as one of its common toxicological effects. In poisoning by belladonna, convulsive action is much more rare; and it has been found by Dr. Hutchinson, of Nottingham, a successful cultivator of spinal pathology and therapeutics, that belladonna exerts a sedative influence on the spinal marrow in tetanus. That opium does not, in man, allay excitement of the spinal marrow, is shown by its failure in the treatment of tetanus and hydrophobia, the purest and most intense forms of morbid spinal action. The patient may be poisoned by opium without any reduction of the spasm. Mr. Bonney, in a paper on the effect of opiates, has ingeniously suggested, that they prove indirectly stimulant to the reflex actions, because the arrest of the cerebral functions they occasion, increases the muscular irritability. I think there are reasons for supposing that, besides this effect, which is very probable, opium is a direct excitant of the spinal system. It aggravates convulsions, when there is already a state of insensibility from other causes, and when, therefore, this explanation could not be received. It is the general opinion of practical men, that opiates are injurious in the convulsions of children, in epilepsy, and in puerperal convulsions; and it is certainly of little or no value, probably, indeed, it is prejudicial, in tetanus, hydrophobia, and other severe diseases of increased action in the excito-motor system. Some striking distinctions must be made respecting the administration of opium under different circumstances, particularly in puerperal convulsions. If a dose of opium be given in this disease in a full state of circulation, before bleeding, there is an aggravation of the disorder; while if it be given in puerperal convulsions in an anæmic subject, or after excessive depletion, it is of great service. If in a case of convulsions opium be given at the commencement, it is dangerous in its effects; but the same medicine is frequently valuable in the advanced stage of the same case, when the vascular system has been powerfully depleted. Thus it would appear evident, that in convulsions with a full state of the circulation, opium is a *stimulant* to the spinal marrow, while in convulsions with anæmia, it is distinctly *sedative*. It is certainly an important point in practice, that the effects of opium in puerperal convulsion depend on the state of the circulation; that in plethoric or inflammatory conditions it is always dangerous, while in anæmia and debility it may always be used beneficially.

"*Emotion.* The regulation of emotion is of considerable importance in preventing the accession of convulsions when they are threatened, and in averting the return of the attacks, in the intervals where *consciousness* is retained. Mental excitement of every kind should be soothed, and avoided as much as possible. The sight of the infant, of alarmed friends or relatives, unpleasant intelligence, noises in the sick chamber, or still more trifling matters, have caused or renewed convulsions. Perfect quiet and repose within the sick room, and the absence of all signs of excitement on the part of the attendants, are of the utmost consequence; the calm or timid look of the professional man may either excite or prevent a fit. The *psychical* effects of emotion upon the spinal marrow—an otherwise purely *physical* organ, in health and disease

—is one of the most striking and indubitable facts furnished by the pathology and physiology of the spinal system.

"*Relief of the Sphagiasmus and other Spasmodic Contractions of the Neck.* During ordinary labours, care should be taken to avoid increasing the tendency to cervical contractions; this is still more important in labours with symptoms of spinal erethismus, or threatening convulsion. Care should be taken that during the propulsive and expulsive stages of labour, the reflex contractions about the neck should not be increased by excessive voluntary efforts, or by violent emotional disturbance. When the neck becomes tumid at each returning pain, the reflex cervical contractions should be moderated, by directing the patient, not only to withhold voluntary action of this kind, but to cry out during the pains, so as to keep the larynx open. In this way sphagiasmus and laryngismus may both be prevented by volition, in some cases. If the cervical symptoms are severe, venesection should be practised before the accession of convulsion, as a preventive measure. Whenever fulness of the neck occurs, either before or after labour, so as to create an apprehension of convulsion, blood should be taken from the head by leeches, or by cupping. There is no point of greater importance in the prophylaxis of puerperal convulsion than an attention to the state of the cervical region: it is to convulsion what the pulse is to inflammation.

"*Removal of Reflex Causes of Convulsion.* In threatened convulsion, or after the invasion of the disease, it is of the utmost importance to seek out and remove all sources of reflex irritation. Remote causes of irritation should be sought for, and removed with the greatest care. The state of the stomach, the intestines, the breasts, the bladder, and other organs in reflex relation with the uterus should be examined. The recollection of the cases in which I detailed the different reflex varieties of convulsion, will at once suggest the appropriate remedies for the relief of these organs. If the fit has occurred after a full meal, or after indigestible food, an *emetic* of the sulphate of zinc should be administered. If there should be vascular fulness, venesection ought to be performed. The bleeding should precede the emetic, to diminish the danger to the cerebrum from the action of vomiting, for emetics given incautiously have occasionally produced sudden death in puerperal convulsion. However, when the gastric irritation is undoubted, no patient should be suffered to continue in the fits with the stomach unrelieved. It may seem superfluous to urge this, but I have known cases of convulsion from gastric irritation, in which the most sedulous attention has been shown to almost every other organ in the body, except the right one. Still more important than the stomach is the state of the bowels. In convulsions the intestines are very commonly loaded; it immediately becomes a question, how to relieve them without producing greater irritation by the operation than already exists from their loaded condition. The most violent drastics have been given in such cases without any ceremony, as though the more rudely the materies morbi were grasped, the more effective the remedy. But it is of great importance to avoid irritating the intestinal canal unnecessarily. I have known puerperal convulsions produced by giving a brisk cathartic too soon after delivery. In fact, there is little difference between irritant drugs and irritant fæcal matter. Therefore, whenever the bowels can be opened without purgatives administered by the mouth, but by aperient *enemata*, the latter are greatly to be preferred. When we give a cathartic, we never know how long it may remain to fret the bowels, but an enema is sure to return almost immediately. Washing out the bowel is less irritating than drastic cathartics, and equally effective in removing fæcal accumulations. A copious enema of warm water, repeated until the free evacuation has been produced, has often relieved convulsion. If the warm water injection should be insufficient, castor oil, or turpentine, may be added. Sometimes the constipation is so obstinate as to refuse to yield either to enemata or cathartics, and the contents of the bowels positively require to be dug out.

I have seen a case of this kind, in which the fæces were as hard as the *album græcum* of the dog, and in which their excavation was followed by almost instant relief of violent convulsions. The state of the bladder should always be attended to in puerperal convulsion, particularly as, during the insensibility of the intervals, the patient is unable to inform the attendant of its distended condition. This may be a slight thing to mention, but the catheter has sometimes relieved convulsion when the lancet has failed. But the great seat of reflex irritation in puerperal convulsion is in the parturient canal. There is only one direct mode in which uterine irritation can be allayed during puerperal convulsion, except by the removal of the fœtus. This is by *evacuation of the liquor amnii*. In cases of puerperal convulsion, puncturing the membranes takes off a considerable amount of distension from the uterus; diminishing the size of the organ, and the quantity of blood circulating through it. Hence, though it renders the uterus more active, by bringing its parietes into contact with the fœtus, it renders the organ itself less irritating to the general spinal system. The evacuation of the liquor amnii is to the uterus what the partial action of an emetic or an enema is to the stomach and intestines. In convulsion from uterine irritation, much may be done by the avoidance of all unnecessary dilatation and interference with the vagina and os uteri. During convulsions, all operations upon the parturient canal, whether they consist of examinations, dilatation of the os uteri and the vagina, the artificial removal of the fœtus, or the extraction of the placenta, should be performed with the greatest care, and with the conviction of the ease with which renewed fits may be excited by any irritation of the uterine passages." (pp. 330-38.)

This long extract naturally suggests various points of commentary; but these we must allow the reader to supply for himself, our exhausted limits forbidding enlargement. From the same cause, we have not been able to refer to some of the important topics suggested, and partly discussed by Dr. Cormack, at p. 522 of this volume: and the remaining lectures we have hardly room to glance at.

Lectures Twenty-Fourth, Twenty-Fifth, and Twenty-Sixth, treat of Uterine Inertia, and Uterine Hæmorrhage.

Uterine Hæmorrhage forms the subject of the two last Lectures. Physiology is beautifully and instructively applied to the treatment of such cases: and there is certainly no class of obstetric emergencies in which it can be applied more beneficially. Dr. Smith furnishes us with no empirical list of remedies in post-partum hæmorrhage; but gives a clear analytical and synthetical idea of all the means which may be useful. As a last quotation, we give his summing up of the true therapeutics of uterine flooding,—the most perilous emergency in which a lying-in woman can be placed.

"The vessels of the uterus should either be compressed mechanically, between the hands, or the venous and arterial flow of blood from the heart should be prevented by pressure on the aorta and inferior cava. Stimulants (brandy, as the strongest, is the best) should be given by the mouth; the head of the patient should be kept low, as the continued action of the heart will depend greatly on the state of the cerebral circulation. The inferior extremities should be raised, and it has been recommended to place ligatures, or tourniquets, upon the extremities, in order to reinforce the circulation as much as possible. As quickly as may be, the ergot of rye should be given with the stimulants, to ensure the direct action of the spinal marrow upon the uterus. This form of action may be excited even after the uterus refuses to obey stimuli of reflex action. The reflex actions should be excited by *alternate* cold douching and warm applications to the abdominal surface and vulva, and by the application of the child to the breast, or by causing the nurse to suck the breasts. The drinks should be given cold or iced, to stimulate the pneumogastric nerve. The muscular irritability of the uterus should be stimulated either by irritation through the abdominal parietes, the appli-

cation of galvanism, or the introduction of the hand into the uterus. Where the latter is resorted to, the uterus should never be injured by improper pressure. Irritation, not force, is required! As a last resource, transfusion has been recommended in these cases; but it is at such moments, above all all others, that we require instant remedies, and transfusion is, alas! an operation requiring more time than life will often wait for. We may suspect that in the fortunate recoveries by transfusion which are on record, the patient would have recovered by other means. Here we have exhausted and combined all our most potent remedies; but they will rarely fail, when properly directed, unless, indeed, the patient is already cadaveric when they are commenced. As there is no malady in which the sudden danger to life is greater than in uterine hæmorrhage, so, most fortunately, there is no contingency in which the resources of Art are more powerful or numerous." (pp. 381-2.)

Let us now repeat, what we said in commencing this analysis—that the appearance of Dr. Smith's *Principles and Practice of Obstetrics* may be regarded as the dawn of a new era in this department of medicine. The way has been cleared and described, and we have no doubt that the path will now be trodden by many, more or less fitted for its farther exploration; but, most probably, to Dr. Smith himself we must in the mean time chiefly look for farther expositions. He has *done* what no man before him even *attempted;* though in saying this, it would be unfair to pass over in silence a valuable paper, by Dr. S. S. Alison, *On the Contractions of the Uterus in Labour*, which appeared in the *Edinburgh Monthly Journal*, for February, 1842, p. 97.[1] The object of that paper was to show the reflex nature of uterine action. We need hardly say, that primarily, science is indebted for the germ of the matter to Dr. M. Hall, who, in his *Diseases and Derangements of the Nervous System*, declared "that the whole question of abortion and parturition, and, in a word, of obstetrics, as a science, is one of the true spinal system."

In conclusion, as regards Dr. T. Smith's work, let us add, that while it is brilliant and masterly as an exposition of the obstetric applications of reflex physiology, it is also of extreme value as a guide to sound practice. Those only who use the term *practical* in mistake for *empirical*, can insinuate that the work now analyzed is not strictly and pre-eminently practical. In truth, we know of no treatise on obstetrics which is more likely to make a skilful obstetrician of any man who is well grounded in the truths of physiology, and endowed by nature with adequate talents of observation. The superficial, the indolent, and those who cannot observe for themselves, need not open the book; and we may add, need never hope to practise any department of medicine with comfort to themselves, or benefit to others.

Lectures on the Diseases of Infancy and Childhood. By Charles West, M.D., Senior Physician to the Royal Infirmary for Children. pp. 488. London: 1848.

We believe that we have a pretty good acquaintance with the systematic treatises on the Diseases of Children, which have been published in this and other countries; and therefore feel competent to say of Dr. West's book, that it is not approached in excellence by any English, and not surpassed by any foreign work on the same subject. Some of the departments—especially the lectures on the Exanthemata—require filling up; and we expect to see, in a second edition, many additions and improvements throughout the volume. Taking it, however, in its present state, it is decidedly the best English Treatise on the Diseases of Children. We would suggest the discontinuance of the form of Lectures, and the addition of a copious, carefully-compiled alphabetical index.

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[1] Dr S. S Alison's paper was read before the London Medical Society, 6th December, 1841, on which occasion an interesting discussion took place, which is reported in the *Edinburgh Monthly Journal* for 1842, pp. 80, 81.

CRITICAL DIGEST OF THE BRITISH AND FOREIGN MEDICAL JOURNALS.

ANATOMY AND PHYSIOLOGY.

DEVELOPMENT AND COMPARATIVE ANATOMY OF THE ORGAN OF HEARING.

BY J. D. MACDONALD, ESQ.

In a series of investigations made on the Organ of Hearing in very young kittens, with a view of ascertaining the mode of development of its several parts (especially the osseous portions), the writer has observed the following points.

"First, with regard to the *ossicula auditûs*, that ossification proceeds from without inwards; *i.e.* the *malleus* is first completed, and next in order comes the *incus:* while the *stapes* is found soft and flexible at birth, and bathed in a thick albuminous fluid, which fills the tympanic cavity. Ossific matter seems first to be deposited in the central part of these small bones, and subsequently extends to their extremities.

"Secondly, respecting the labyrinth, the vestibule was completely ossified at birth: while the *cochlea* presented an osseous saccule, communicating with the vestibule, and having a central bony core corresponding to the *modiolus* and *lamina spiralis ossea*, all the rest of the organ, with the exception of a small portion of the spiral tube composing it, was membraneous.

"The semi-circular canals were yet imperfectly ossified, being only complete where they open into the vestibule. They were imbedded in a semi-cartilaginous substance, composing the base of the petrous portion of the temporal bone, which is united to the mastoid and squamous divisions at this period by a kind of articular surface.

"As ossification in the semi-circular canals proceeds, the modiolus and lower portion of the spiral lamina are being completed, so that they appear, as above stated, like a bony core in the centre of the saccule of the cochlea, and connected with its walls by two membraneous laminæ, placed one above the other, which wind edgeways spirally round it. One of these laminæ forms, with the modiolus and saccule, part of the *parietes* of the common tube, which, by its turns, or *gyri*, mainly composes the cochlea. The first part of this tube—*i.e.* somewhat more than the first half turn—is completely ossified at birth, but from this point forward it gradually becomes deficient in bony matter; the membraneous *lamina* remaining unossified towards the summit of the cochlea, where it terminates in a kind of *hamulus* or hooked extremity, the convexity of which is attached to the side of the cupola, while the concavity is free, looking towards the centre of that space.

"The other *lamina* above mentioned lies superior to the last described, and retains its character as the membraneous spiral lamina externally, or where it is attached to the walls of the saccule; but internally, where it is united to the *modiolus*, it becomes bony, and thus the osseous spiral lamina is formed. In this latter, bony matter shoots forth in irregular rays from the central axis, progressing in a direction from the base towards the apex of the cochlea: a well-defined line may be seen running longitudinally upon the membraneous lamina, where the osseous portion remains imperfect, which mechanically (?) limits its future extent. This lamina gradually inclines towards that first noticed, and about the middle of the second turn of the cochlea comes in contact with it by its outer edge, and eventually completely lies upon it; and thus, continuing onwards, forms the upper surface of the *hamulus* above described, at the free border of which the two membranes become continuous.

"The vault of the cupola is very extensive, as the modiolus does not reach farther than the root of the *membraneous hamulus*, where a little bony hook may be found to exist. This is the true homologue of the hamulus as observed in the human subject, and beneath it is observable the helicotrema proper, a very small and elongated aperture, which it bounds externally; the aborted central axis, that is here membraneous or imperfectly ossified, forming its inner margin. This small hole leads to the scala tympani, while the open passage beneath the membraneous hamulus leads from the cupola into the scala vestibuli.

"The extent of the scala vestibuli and scala tympani may be considered as equal; for what the former gains at the apex of the cochlea in forming the cupola, is compensated for in the latter by its extension outwards at the base of that organ, where it communicates with the tympanum. But the calibre of the two scalæ is very different when they are contrasted at any part: thus, the scala vestibuli varies very little in its entire extent; while the scala tympani, from being very capacious at its lower part, tapers away towards its upper extremity, and ultimately becomes so small and compressed, as almost to lead to the conviction that it was obliterated before it could reach the helicotrema. This, of course, results from the approximation of the true spiral lamina to that which enters into the formation of the common tube of the cochlea, as already described.

"The eminence of the internal wall of the tympanum, called the promontory, projects outwards considerably, in consequence of the bulk of the scala tympani at its base. This fact would lead to the supposition that the fenestra rotunda must also be proportionably large; and such is the case, it being about three times as large as the fenestra ovalis, which is a mere slit in appearance.

"Looking upon the apex of the cochlea, the arch of the cupola having been removed, two openings may be observed (briefly alluded to above): first, the helicotrema proper, which lies towards the central axis on the inner side of the *osseous hamulus;* and, secondly, the upper orifice of the scala vestibuli, separated from the former internally, and bounded above by the concave edge of the *membraneous hamulus*, the walls of the saccule, and the upper surface of the spiral lamina, soon after the commencement of the second gyrus circumscribing it externally and inferiorily. These openings may be respectively named the cochlear and vestibular helicotremata, the latter being many degrees larger than the former; so that, should a fluid be poured into the cupola, it will pass into the vestibular rather than the tympanic *scala*.

"The greater par of the interior of the labyrinth is lined by a dense and apparently unorganized deposit of earthy matter. The bony spiral lamina, under a low magnifying power, presented the appearance of a close and irregular network, having a radiating arrangement of its meshes from the centre, or modiolus, to the outer border of the lamina, the density of which increases from without inwards. The centre of the modiolus was hollow, containing the cochlear nerve. The bony tubules which envelope the nerve filaments in the perfect organ, were not formed at birth. The orifices by which the cochlear nerve reaches the spiral lamina, and the grooves which the nerve tubes occupy in passing to the lamina, tend towards its under surface. This fact, which is of great importance in the study of the physiology of the organ, has been demonstrated by Dr. Todd and Mr. Bowman in their Physiology, and it would lead to the supposition that the cochlear nerve is thus especially adapted to receive the vibrations communicated to the scala tympani through the *membrana fenestræ rotundæ*. The scala vestibuli, as a means of communication with the vestibule, answers other purposes, which we have noticed in a former communication.

"The common tube of the cochlea in a kitten forms very little more than two complete turns or gyri. The transverse measurement of the entire coil at its base appears to equal the vertical. A strong contrast is believed to exist

between the cochlea of the cat and dog in this respect, by some anatomists, who consider the organ in the latter animal to be much more prominent towards the tympanum than in the former, its vertical diameter exceeding the transverse. This, however, has not appeared to the writer in the cochlea of the puppy of a black and tan species of terrier, which he has had the opportunity of examining for comparison with that of the kitten ; and so near do the characters of both seem to correspond, that a perfect idea of one may be formed from a description of the other. I may be allowed here to observe, that the best way of preparing the cochlea for examination is, to separate the petrous from the other portions of the temporal bone (this may be very easily done in the very young animal, as it is only connected with them by a cartilaginous material), and setting it aside in its recent state (*i.e.* without maceration) to dry ; by this means the fluid matters will evaporate, and the internal parts will become tough, and fit for dissection. Of course the vessels and nerves would require a special preparation for their investigation ; and the more minutely injected, and the fresher the organ is for these purposes, the better ; but, for the study of the osseous and membranous parts forming the frame-work of the cochlea, simple drying will suffice ; so that, with a moderately strong needle, it may (when dried) be opened at the apex, and so the dissector may proceed downwards to the base, detaching its external brittle walls from the tough membraneous laminæ, which will be found to hold their original position. Should the precaution of commencing at the apex be not attended to, the organ may give way in parts which it might be an advantage to preserve.

"The writer first examined some cochleæ of young kittens, which had been some time subjected to maceration, and the result was, that the spiral lamina and modeolus having come quite away, the appearance presented was as though no spiral lamina had existed at the period of birth, and a spiral sulcus had supplied its place. However the doctrine may prevail, that the part called the modeolus has no real existence,—as Ilg and others affirm, who consider it to be nothing more than the inner wall of the common tube,—it is certain that, in the kitten, before this tube is completely ossified, a bony pillar or core occupies the axis of the cochlea." [*London Medical Gazette*, 13th April, 1849, page 637.]

ANOMALIES IN THE OPHTHALMIC NERVES.

At the ordinary meeting of the Royal Medical Society of Copenhagen, on 30th March, 1848, Professor Svitzer exhibited two cases of variation in the Ophthalmic Nerves, which, he believed, had not hitherto been observed. In the first, there was seen a thick connecting branch between the third and sixth pair, and also four long roots of the lenticular ganglion, three being from the nasal nerve, the fourth from the superior fasciculus of the oculo-motor nerve. In the second, there was observed a similar branch of connection between the third and fourth pair, with absence of the short root of the ciliary ganglion. From the nasal nerve there proceeded two long roots to the ophthalmic ganglion ; the anterior of which, after again dividing into two branches and being united with a branch from the ciliary nerve, passed to the sheath of the optic nerve, and formed an elegant network by anastamosing with the ciliary nerves. Both these cases are delineated in a work on the Nerves of the Eye, published by Professor Svitzer. [*Bibliothek for Læger*, July 1848.]

PRACTICE OF MEDICINE AND PATHOLOGY.

EMPLOYMENT OF MANGANESE IN MEDICINE.

The *Revue Médico-Chirurgicale de Paris* for June 1849, contains a reprint of the practical portion of a work lately published by M. Hannon, entitled *Etudes sur la Manganese*, in which he asserts the utility of this metal in cases of anæmia. We translate the article slightly abridged.

Manganese and iron are almost constantly found united in the same minerals, and can be separated with difficulty. Again, iron is not always efficacious in chlorosis, and fails in curing anæmia arising from cancers, from tubercles, from prolonged and abundant suppuration, etc. In these cases, it cannot be the iron that is deficient in the blood, but some other ingredient; and it is probable that iron is united to Manganese in the blood; and that cases of anæmia, unsuccessfully treated by iron, might be cured by Manganese. M. Hannon first tried the effects of this agent on himself. He took at first a grain of the carbonate of Manganese daily, increasing the dose to four grains by the end of the first week, and to eight grains by the end of the second. At the end of a fortnight, he experienced symptoms of plethora; the appetite increased, the pulse became stronger, and the colour of the interior of the eyelids was heightened. He then administered Manganese to some anæmic patients; some of them experienced nausea for two or three days, after which the medicine was tolerated. In a short time, its beneficial effects became manifest in the increase of colour, in the fuller and more frequent pulse, in the energetic movements, and general improvement of all the functions.

The presence of Manganese in the blood was discovered by M. Millon, who presented a memoir on the subject to the Académie des Sciences of Paris. His observations have been confirmed by M. Hannon.

Case I. Mademoiselle J. was of an extreme paleness; the skin of the forehead, nose, and chin, resembled old white wax in colour, and appeared deprived of vascularity; the cheeks scarcely possessed more colour. The lips and conjunctivæ were deprived of their natural colour. The superficial veins of the hand and arm were imperfectly filled; on the back of the hand, they presented a pale violet shade. Slight pressure on them expelled the blood, which only returned slowly. The eyes had a remarkable expression of weakness and languor. Auscultation discovered a bellows-sound in the region of the heart and great arteries. The rhythm of the heart's action was irregular; and but feeble pulsations could be felt, on placing the hand over the præcordial region. The patient was subject to attacks of syncope; and was often seized with palpitation and breathlessness while walking. In ascending stairs, she was obliged to sit down and rest, and was then often seized with syncope. She complained of a painful sensation in the epigastric region; the appetite was lost, and she had a great disgust for all restorative aliment. There was habitual constipation. There was extreme moral depression: the muscles were becoming weaker every day, and the least motion brought on palpitation, syncope, extreme dyspnœa, or perspiration.

Preparation of iron, and a restorative regimen, were first employed, but without success. In a month, the patient was sent into the country, and desired to take some of the pills of Bland (which contain iron); she returned to Brussels weaker than when she set out. Her feet swelled in the evening. The patient was then directed to take one of the following pills daily before breakfast, and another before dinner. Extract of cinchona, carbonate of manganese, of each a drachm. Mix, and divide into four-grain pills. After she had used these pills for a fortnight, the cheeks and conjunctivæ regained their colour, and the swelling of the feet disappeared. The following pills were then ordered. Sulphate of manganese, carbonate of soda, of each a drachm; fresh charcoal, honey, of each a sufficient quantity to make a mass, to be divided into four-grain pills. A fortnight after the employment of this medicine, the bellows-sound had disappeared; the pulsations of the heart were strong and loud; and an energetic impulse was felt on applying the hand. There was no syncope; and the appetite had returned. The dose of the pills was increased; and, a month after, menstruation occurred, and the patient became plump, and able to bear much exertion. She digested and slept well—in a word, was cured.

Case II. Mademoiselle —— had menstruated at twelve years: the cata-

menia had been always regular and abundant, and her health excellent, till she was eighteen years old. From this time, however, her cheeks lost their colour, her lips their freshness, and her eyes their vivacity. She became subject to excessive nervous susceptibility, and to *malaise;* and, from being lively and gay, she became blunt and rough. This state of the nervous system increased in intensity: she experienced every moment pains in various parts of the body; sometimes in the epigastrium, sometimes in the thigh, sometimes in the loins. Digestion was impaired, and the bowels acted sluggishly. The catamenia appeared irregularly, and in diminished quantity; sometimes only as a simple leucorrhœal discharge. Various preparations of iron were tried, but all were insupportable to the patient, producing derangement of the stomach. Pills were then administered, made of carbonate of manganese, with powder of cinchona. These at first produced nausea, which was soon restrained by the use of a potion prepared with poppies; the pills being still continued. The dose of the manganese was gradually increased; and under its use, the gastralgia gradually disappeared, the nervous disturbances became less general and frequent, and the colour of the face reappeared. The preparations of iron were now administered, and easily tolerated; menstruation became abundant and regular; and the patient recovered a healthy appearance.

Case III. Madame L., aged 40, a nurse, is often obliged to remain from home at night; and being unable to procure sufficiently nourishing food, fell gradually under a state of marasmus. For several months, the catamenia were replaced by a leucorrhœal discharge. A strengthening diet and iron were prescribed. She took the medicine, but had no roast meat nor beer. Six months passed away without improvement. It was evident from several observations that the iron was producing no effect. Pills of the carbonate of manganese were then ordered, and borne by the patient. For a month, there was but little improvement; but all at once the patient said that she felt stronger, and that the leucorrhœal discharge had ceased. From this time she regained her colour; the yellow tint of her face disappeared completely, as did also the abdominal and lumbar pains which she experienced. At the end of a month, Madame L. was completely re-established, although she had not used the strengthening regimen prescribed: pulse formed her common food. She afterwards returned to her fatiguing occupations; during the night, she attended deliveries and watched patients; during the day, she employed herself as a laundress.

Case IV. G. L., aged ten, of a lymphatic temperament, wounded his left arm. The humeral artery was wounded, and gangrene of the hand followed. The separation of the eschars produced a tedious suppuration, which continued for three months, and weakened the patient. The mucous surfaces were extremely livid; the face wore an expression of terror; the eyes were hollow. The cough, in any other circumstance, would have led one to suspect phthisis; the sputa were nummular, and there were nocturnal fever and sweats. On auscultation, rhonchi were heard all over the lungs; but no pectoriloquar, nor cavernous respiration. Sulphate of quinine, with syrup of cinchona was prescribed; but the patient, after having tasted the medicine, obstinately refused to take it. The tannate of quinine, an insoluble, and hence tasteless substance, produced no result. The digestive organs were extremely weak; the food was passed almost untouched in the stools. A grain of carbonate of manganese, with extract of gentian, and opium, was ordered to be taken daily. The diarrhœa gradually ceased; the appetite reappeared; and digestion was restored. The carbonate of manganese were then given alone, in doses of a grain daily. The patient improved in condition from day to day: his flesh regained firmness, and his skin colour. The parts denuded by the separation of the eschars were washed daily with an alcoholic solution of tannin, and ceased to suppurate; cicatrisation soon took place, and the patient was completely healed.

Case v. Mademoiselle ——, two of whose brothers and a sister had died of phthisis, was troubled with a severe cough, dry in the evening, but accompanied in the morning with variable sputa, frequently streaked with blood. It was severe at night, and interrupted sleep. She experienced transitory pains in various parts of the thorax, especially between the scapulæ, and often in the right scapular region. Percussion elicited a dull sound under the clavicles, especially under the right; on auscultation, small crepitation was heard in that region. During the night, she had very copious sweats, by which she was *inundated*. The hands remained moist. The pulse was always between 90 and 100 in the minute. In spite of frequent epigastric pains, her appetite was considerable. The tongue was red and dry: the thirst excessive. The voice was often hoarse; and the least exertion brought on dyspnœa. She was in an anæmic state. Iron, with opium, was prescribed; but it increased the cough, and brought on obstinate constipation. Syrup of the phosphate of manganese was then given, with cod-liver oil; the latter being added rather to prevent the contact of air with the manganese, than from any expectation of its producing good effects. The constipation ceased; and the cough became more bearable, and ceased in a fortnight. The patient then began to recover *embonpoint*. A month after, the knuckles assumed a very remarkable brick-red colour, which has continued up to the present time,—a period of nearly a year and a half. This patient took 3 *gros* (216 grains) of phosphate of manganese, in doses of three grains daily.

Case vi. Madame R. was affected with cancer of the uterus. She complained of remittent pain in the hypogastric regeion, and suffered much while at stool. In the evening she was troubled with severe lancinating pains, which often continued through the night. She was excessively weak, and of a pale yellow hue. She was troubled with palpitation, and a *bruit* was heard in the carotid. The feet frequently swelled. Syrup of the iodide of manganese was given, with syrup of horse-radish, for several months. The pains did not leave her, but the anæmic appearance completely disappeared. To calm the pains, opium, with extract of hemlock, was prescribed; and the patient became apparently cured.

Case vii. Mademoiselle M., aged 14, of a scrofulous constitution, had glandular enlargements in the neck, ulceration of the transparent cornea of the left eye, and caries of the first phalangeal bone of the index finger of the right hand. Being the daughter of a peasant, she had lived exclusively on vegetable food; but was ordered to take meat, and to drink beer. Syrup of the iodide of manganese was given in doses of a spoonful two or three times a-day. Under the influence of this, and her improved diet, she became less lean; soon after, the cornea regained its transparency, having been washed with a lotion containing gr. ss. of nitrate of silver to an ounce of distilled water. The suppuration of the carious bone ceased, and the finger was cured.

Case viii. M. G. B., aged 38, had been treated with mercury for some years, for constitutional syphilis. The bones were sound; the skin was affected with all kinds of eruptions; the tongue had long been the seat of an obstinate tumour; and there were syphilitic ophthalmia and iritis. Fumigation and iodide of potassium were persevered in for several months, but without effect. Iodide of manganese was then given, with syrup of sarsaparilla; and in a month, the patient was completely healed. He was directed to continue the use of the manganese; and, as he has not since applied for relief, it is probable that he has had no relapse.

These eight cases have been selected from a number of similar ones, and show the efficacy of the new remedy now proposed. Manganese has in all cases produced a more rapid effect than iron, in cases of simple anæmia. In the four forms of anæmia cited, all the cases had resisted iron, and all yielded to manganese. The other cases are respectively of phthisis, cancer, scrofula, and syphilis;—all inducing almost irremediable cachexia, and all rapidly

alleviated by manganese. The effects of the manganese, as observed in Case v (phthisis), are remarkable.[1] Iron seldom produces a similar result; if it improves the state of the blood, it increases the cough; so much so, that many practitioners abstain from its use in phthisical cases. In all the scrofulous cases, the iodide of manganese, by its salutary and rapid influence, was proved superior to the iodide of potassium. The persistence of the cures obtained by manganese, in comparison with those produced by iron, is very remarkable: no cases of relapse have been observed by M. Hannon. The quantity required to be taken, in order to produce the desired result, is far from being so great as that of iron.

SMALL-POX AND VACCINATION: GENERAL SUBJECT OF VITAL STATISTICS.

Notwithstanding the acknowledged efficacy of Vaccination as a preventive against Small-pox, and in spite of the efforts made by Parliament, the medical profession, and the parochial authorities, to disseminate the great discovery of Jenner, it is truly astonishing how many objections and prejudices still prevail upon this subject throughout country districts; more especially amongst the uneducated part of the population. Every practitioner knows the truth of this remark; and in proof of its correctness, he might confidently appeal to daily experience. Numerous illustrations in support of such an opinion could be easily quoted; but it will suffice at present to refer to the two recent Quarterly Reports of the Registrar-General, to show how little Vaccination is even now practised in many parts of England. In various districts, where Small-pox has lately proved very fatal, it is not stated whether the victims had been previously vaccinated; but in several localities, the registrars report, that a large proportion of the deaths by small-pox, during the last six months, occurred in persons *not vaccinated*. After a cursory examination of the official documents just mentioned, it appears, that not less than 240 individuals actually died under the above circumstances. Doubtless, had all the facts been known in regard to many other deaths by this malignant eruptive disease, the aggregate number would have been very considerably greater. However, as that point cannot now be ascertained, it is interesting to notice some of the places in which these mistaken prejudices against Cow-pox have most prevailed. Portsea island, in Hampshire, takes the first rank in this respect; and here the natives seem so inimical to Vaccination, that actually eighty-seven persons died in that benighted locality from Small-pox, during the first three months of the present year, not one of whom had ever been vaccinated! whilst in the summer quarter, ending the 30th of last June, fifty-five persons were also carried off from small-pox. But as nothing is said in the Report respecting previous Vaccination, we arel eft in ignorance respecting this point; although the presumption is, that few, or perhaps none, were in that way protected. Leicester comes next, and furnished thirty-two fatal cases of a similar character. Then Bristol, where twenty-six instances occurred. In Dorchester there were eighteen examples; whilst the small town of Reading supplied seventeen cases. These facts, as likewise many others, almost exceed belief; and indicate a degree of ignorance among the population, which can scarcely be believed to exist at the middle of the nineteenth century: but so it is. When it is remembered, that in addition to the above statement, in many of the fatal cases occasioned by small-pox, no notice is given respecting previous Vaccination, whether it was employed or neglected, the proportion must, in all likelihood, be assumed to have been much greater. Truly knowledge has yet to be much more diffused, before the common people can be induced to adopt Vaccination as the only safe antidote against Variola.

[1] Notwithstanding the scepticism of M. Hannon, as to the therapeutic utility of cod-liver oil, we think that much of the benefit derived in this case is to be ascribed to the use of this medicine.

Besides the interesting information just alluded to, the Quarterly Reports contain also other matters well worthy of record. For instance, in the parish of Walton le Dale, Preston, it is stated, that in sixty-five deaths reported during the summer quarter of the current year, seventeen of the deceased had no medical attendant. A similar statement is likewise made in reference to Thornton parish, in Bradford, where, of ninety-eight deaths which occurred during the same quarter, as many as thirty-nine individuals died having had no medical advice. One can scarcely believe such deplorable apathy or ignorance to prevail; but on such an authority as the above, it must be true. Contrasted with such distressing circumstances, it is gratifying to read, that in Lockton parish, Pickering (situated in the North Riding of Yorkshire, and having a population of 500 persons), only one death occurred during six months. After perusing these, as well as other interesting and instructive statements, the Registrar-General's Reports, although universally admitted to be most useful, cannot be too highly estimated, when small-pox, typhus, cholera, scarlatina, or any other malady, is the subject of investigation. To Mr. Farr, the public and the medical profession are deeply indebted, for the instructive manner in which he periodically digests and promulgates the information mainly furnished by the latter. England now stands pre-eminent amongst all civilized nations, in respect of medico-statistical documents; and should Scotland, Ireland, and the chief British Colonies, follow so excellent an example, the facts collected would soon suggest social changes of the highest importance to all classes of the community.

TRANSFORMATION OF A KIDNEY INTO A VAST CHAMBERED POUCH, FILLED WITH PUS, AND COMMUNICATING WITH THE LUNG.

M. C. Bernard, in the name of M. Bauchet, presented to the Société de Biologie of Paris, on the 14th of July 1849, a greatly enlarged kidney, taken from a woman who had been under the care of M. Monneret. It formed a pouch, divided into seven or eight compartments, filled with a greenish pus. One of the compartments passed through the diaphragm, and adhered to the lung. Two calculi were found, one of large size, in the ureter, near the pelvis of the kidney; the other small, in one of the sacs. The lining membrane of the sacs was examined microscopically by M. Monneret, and found to consist of nothing but condensed cellular tissue. M. Chaussat mentioned, that M. Monneret had been able to diagnose the communication of the kidney with the lung, from the existence of uric acid in the sputa. [*Gazette Médicale de Paris*, 18th August 1849.]

URTICARIA IN INTERMITTENT FEVER.

The following observation (*Gazette des Hôpitaux*, 28th July 1849) is incomplete, inasmuch as there is nothing said as to the presence or absence of rheumatism, with which Urticaria has a remarkable relation, as was noticed at page 85, in speaking of the article "Scarlatina Rheumatica", of Dr. Copland's *Dictionary*.

Professor Cruveilhier had a patient, in his wards, with Intermittent Fever, of the tertian type. The man had come from a marshy country, and had been previously the subject of this disease, which had left behind it a notably enlarged spleen. He had taken a large quantity of sulphate of quinine. When in hospital, as well as before admission, it had been remarked, that immediately after the cold stage, as the hot stage set in, there appeared a perfectly characterized eruption of urticaria, accompanied with intense itching. It continued up to the end of the sweating stage, when it entirely left him. M. Cruveilhier remarked at his clinical lecture, that though urticaria had been mentioned in books, as appearing in the course of intermittent fevers, it was nevertheless an uncommon occurrence.

SURGERY.

ANNULAR STRICTURE OF THE RECTUM.

Several communications have lately appeared in the *Gazette des Hôpitaux*, containing some valuable observations made by M. Robert, of the Hôpital Beaujon, on Circular Stricture of the Rectum. The Number for 19th June 1849, contains the following summary:—

Seat of the Stricture. A remarkable circumstance is, that the seat of the stricture is almost always the same; viz., about six or eight millimêtres from the anus. M. Robert has naturally endeavoured to discover the cause of this uniformity, but as yet without success. Houston has described a valvular stricture at this part, which bears his name, and which he supposes to be the primitive seat of the disease; but this valve has been several times sought for in vain. However, in a woman who died of chronic diarrhœa, M. Robert discovered, at the point indicated by Houston, a sort of blackish inflated *valvula connivens*, which, if it existed in a large proportion of subjects, might be considered as the special seat of the strictures to which he refers. This is a subject for further investigation.

Causes. One case only of the annular strictures which M. Robert has had to treat, occurred in a male. The female sex, therefore, appears to have a marked predisposition to this affection. The exciting causes it is not so easy to determine.

In some cases, labour, whether difficult or not, has appeared to be the starting point of the stricture: at least, the first symptoms have appeared after delivery. In other cases, a chronic dysentery has preceded the organic lesion, and has continued after its formation. Inquiry has naturally been directed to discover, whether the patients have been at any time affected with those venereal symptoms which are called *antiphysical*, but more properly *antiphysiological;* M. Robert professes himself able to arrive at only a negative conclusion on this point. But the assertions of patients on this subject are so rarely in accordance with truth, that doubt must necessarily be entertained on the influence of such a cause.

Diagnosis. When the stricture is not very strongly marked, the diagnosis can present no serious difficulty. The finger can always, with more or less ease, be brought to reach the stricture, and allows it to be easily discovered, when the anatomical change consists in a circular band, a few millimêtres in thickness, above which the intestine is found of its normal structure and consistence. When exploration by the finger is followed by examination with a bi- or tri-valved speculum, there is seen a diaphragmatic ring, red, equally granular, commonly of a fibrous consistence. Sometimes this ring presents some superficial ulcerations, which never have a bad appearance. It may also be of a more delicate structure; and, in such a case, has been torn by the speculum. In no case, except when an abscess already exists in the cellular tissue of the pelvis, surrounding the rectum, is the stricture closely united with the neighbouring structures; they can be felt by the finger to be supple, and to permit the strictured and indurated part to be moved. These symptoms are quite sufficient to aid us in distinguishing this form of stricture, both from those which have their seat without the rectum, and from those which have arisen in the intestine itself.

Complications. These are rather common, and form a powerful obstacle to treatment. Sometimes they have existed before the stricture, and are generally then most serious; sometimes they occur subsequently, and are removed with it. Among the latter are rectal hæmorrhages, which M. Robert has sometimes observed, but which he has never seen to assume an alarming character. Suppurative inflammation may occur, and give rise to abundant suppuration: but this accident is not very terrible; it can only occur in old cases, where there are such slender hopes of cure as have not yet been pre-

sented. A much more troublesome complication is fistulæ, which may exist above the stricture, between the rectum and the vagina, or between the rectum and the cutaneous surface. These fistulæ scarcely oppose the cure of the stricture, but persist some time after it, with a severity which is peculiar to them. In one case of stricture, there was observed at the same time an alteration in the structure of the sacrum. In a case (a male) observed by M. Robert, the rectum was perforated above the stricture, and a stercoral abscess formed, which traversed the sciatic notch, and opened in the popliteal space. But such cases are rarely the result of stricture; they most commonly precede it, and it is rather the structure itself which forms the complication.

Prognosis. When annular stricture is properly treated at an early period, there is no serious danger. But when it is left to itself for a considerable time, its severity is considerable, and it very often even ends in death.

Treatment. Several means have been proposed for the treatment of stricture of the rectum, but without sufficiently distinguishing one kind from another. In the form under consideration, M. Robert prefers destructive cauterization to all other remedies. He says that dilatation, which is generally employed, is insufficient, and not unattended with inflammation. He has seen a case, in the practice of M. Breschet, in which it caused violent inflammation, which rapidly extended to the peritonæum, and produced death. On other occasions, dilatation has produced hæmorrhages, which, without being very severe, have been distressing to the patient, and have produced a very inconvenient degree of weakness. The treatment by means of a cutting instrument is much more dangerous, and does not always produce the expected effects. For these reasons, M. Robert prefers destructive cauterization, with Vienna paste; and his observations tend to prove the success and harmlessness of this treatment.

CASE OF ABSCESS OF THE SPERMATIC CORD.

By William Philpot Brookes, M.D., Surgeon to the Cheltenham General Hospital and Dispensary.

[The following case was forwarded to us as an *original article* by the author; but this arose by mistake. It has appeared as an original communication both in the *Lancet* and *Medical Gazette*. Authors ought not to send their papers to more than one Journal.]

R. W—, aged 51 years, of active, spare habit of body, irritable and very anxious disposition, enjoyed uninterrupted good health till within the last few months. Six months back, after much pain and suffering, he passed a large-sized gravel stone: after that time his usual good health was restored.

On Wednesday, June 28, 1848, I found the patient suffering from fever, constipation, pain on pressure in the abdominal region, and extensive pain around the margin of the ribs on the right side. I learnt that he had suffered for several years from a double inguinal hernia, and had constantly worn a truss. There was, on the right side, above Poupart's ligament, a round, cup-shaped depression, as large and deep as a small saucer, caused by the pad of the truss slipping out of its proper situation: and extensive pressure having been kept up with the pad, which was hard and convex on this spot, he complained of excruciating pain, and could barely allow it to be touched. The heat of the part was far above the natural temperature, and the skin was of a reddish-brown hue; the pulse was very quick and sharp; bowels had not acted for two days; tongue foul; hernia easily reduced. I ordered him five grains of calomel to be taken directly; a black draught in the morning; and a dozen leeches, with warm fomentations and poultices, to be applied to the abdomen afterwards. An enema to be given at bed-time, if he had had no evacuation before that time.

June 29th. Bowels not opened; the enema passed away without any fæcal

matter. Great pain over the whole abdomen and around the edges of the liver; tongue white and foul; pulse quick and wiry; urine scanty and high-coloured. To take two grains of calomel, and half a grain of opium, every four hours. An enema to be given directly; twelve leeches to be again applied over the bowels, and afterwards warm poultices to be kept constantly applied.

30th. Pain in the abdominal region increased since last night; bowels opened twice; countenance anxious; pulse sharp, wiry, quick, and small; tongue foul. To repeat the calomel and opium; to be bled until the system feels the effect of it, and the pain becomes less.

July 1st. Pain in the abdomen and around the liver much diminished after the bleeding; tongue dry and red in the morning, but at night it became quite moist. Repeat the calomel and opium.

2nd. Pain has entirely ceased over the bowels and liver, but at the spot where the truss was worn it is still very acute and painful, and will not admit of any pressure being used. The part is also swollen and hot; intense hiccough supervened this morning, which gives him great uneasiness, and makes him irritable and anxious; more fulness on the spot where he complained of pain, and a swelling of a pyriform shape, extending from under Poupart's ligament, down into the scrotum, appeared on this day, following the course of the spermatic vessels from the ring. The cord is situated behind the swelling, and feels hard, tense, and most painful to the touch. The hernia is not discoverable. Tongue dry, glazed, and red; but at night it moistens, and has done so for the last few evenings; pulse 120, quick and sharp.

3rd. Hiccough continues much the same, and he rarely gets an interval of five minutes without it; he has also every two or three hours several fainting paroxysms, in which he can scarcely draw breath, and must be supported in bed. When in these attacks he appears as if in a dying state; and they last for two or three minutes at a time. The stethoscope indicates no abnormal signs of disease in any of the viscera or vessels of the chest. The tumour in the groin is hard, red, and painful to the touch; does not fluctuate, nor does pressure exert any influence on it; no intestine can be discovered down. Twelve leeches to be applied to the swelling, and warm fomentations afterwards; bowels opened twice to-day. He is in a most exhausted state. To take beef-tea, brandy-and-water, and the following mixture:—Two drachms of compound spirit of sulphuric ether; water, six ounces; one tablespoonful every two hours.

4th. Tongue cleaner, but red and shining; pulse small and wiry, 110; hiccough continues much the same; paroxysms of difficulty of breathing and fainting less frequent; pain and fulness in the region of the groin increases; but the swelling is softer and more boggy than it was yesterday. Spirit lotion to be kept applied to the part; and one grain of quinine, with compound spirit of sulphuric ether, to be taken every four hours. Bowels are regular, and urine plentiful.

5th. Diarrhœa set in to-day; tongue dry and shining in the morning, moist at night; sleeps but little; hiccough continues the same; paroxysms of difficulty of breathing less frequent, and not so intense. Omit the mixture of quinine; and take ten grains of Dover's powder at bed-time; the chalk mixture, with aromatic confection, every four hours, until the purging ceases.

7th. Diarrhœa ceased last night. Pulse sharp, wiry, weak, and 90; swelling in groin and scrotum increases, and is most painful when touched. Spermatic cord situated behind is increased in size, hard, and painful. Hiccough less, but still troublesome; countenance less anxious.

8th. Hiccough increasing in frequency; pulse weak, but less sharp and wiry, 80; his strength augments; paroxysms of fainting had entirely left him since the 5th. To have plenty of animal food; brandy-and-water frequently. Towards the evening I was sent for in great haste, when I found

my patient in a dreadful state of collapse, drawing his breath hard, and a cold perspiration streaming from his forehead and face; I considered him, in fact, in a dying state. He could just swallow, and by the use of ether, brandy, and ammonia, he gradually rallied. Warm poultices to be kept applied to the swelling in the groin.

10th. Tumour very painful; he will not allow it to be handled much; it extends nearly to the lowest part of the scrotum, and takes quite the shape of scrotal hernia. I can discover no intestine down; bowels well opened; great sickness came on to-day; and slight fluctuation appeared in the tumour, which is becoming red and inflamed. On slight pressure, it gives a gurgling noise, as if it contained air. Tongue red and moist. Continue quinine and ether. On a consultation with Mr. Eves and my patient's master (who had formerly been in practice as a surgeon), it was deemed prudent not to interfere with the tumour to-day, and warm applications were resorted to.

16th. The tumour continued increasing in size up to this day; it appears to have no inclination to point; on pressure it gives an increased gurgling noise of air, and on being filliped it produces a drum-like sound. We can discover no intestine in the scrotum. To-day we thought it advisable to dissect down layer after layer, as if operating for hernia, and after dividing the first two layers, a most offensive fœtid matter escaped, to the extent of nearly half a pint, mixed with bubbles of air. The constitution suffers greatly, and the patient has become very weak, irritable, and anxious. To have beef-tea, brandy, and as generous food as he can, with occasionally porter and port wine, instead of brandy. Continue the quinine mixture.

18th. Tongue moist; pulse fuller and more natural; bowels open; urine healthy and plentiful; sleeps well; a slough coming away from the wound in the scrotum, which discharges about six ounces daily, and smells most offensively. Ten P.M.: The first stage of sphacelus set in this evening on the side of the scrotum, and around the upper portion of the tumour as high as Poupart's ligament; he cannot now feel the parts when touched. Countenance anxious; pulse weaker than this morning. Says he applied a cold poultice to the parts this afternoon. To apply warmth with flannels to it for a few hours, and afterwards barm and charcoal poultices. Tongue moist and red; falls frequently into a collapse. To take egg-and-brandy mixture frequently.

19th. Pulse fuller and stronger; he had rallied much since last night; discharge from the scrotum healthier, and is assuming more its natural colour and warmth; he can now feel it when touched; tongue moist; takes plenty of food, and brandy; pulse stronger, and more resistent; bowels opened, and regular. Continue poultices and quinine mixture.

20th. Takes food well. A large-sized piece of slough was cut away from the scrotum to-day; a copious discharge from the part takes place, but the pyriform swelling in the groin still remains.

21st. Discharge less offensive; air occasionally escapes with it when it is dressed; pulse good; tongue clean; bowels regular.

August 5th. He continues gaining strength and improving; the discharge has nearly ceased; wound in the scrotum very trifling, and he can now walk a little.

Sept. 1st. Now quite well. The hernia comes down on the left side, but not on the right to so great an extent as it did before the attack. Still pain on pressure over the spot where the pad of the truss had been worn. He now wears a common circular truss, with a long oval concave soft pad; this at first gave him some uneasiness, if it moved up a little, but he now uses it with comparative comfort and ease.

Remarks. I attribute the first injury to the inflammatory action set up at the abdominal ring, by the hard pad of the truss having exerted undue pressure on the sheath of the spermatic cord. The inflammation gradually extended to the peritonæum, and caused, at the outset of the attack, the severe

peritonæal symptoms. The hiccough through the first part of the case was very troublesome, and doubtless arose when the formation of pus commenced; as it altogether ceased on its complete formation. Another obscure point in the treatment was, the peculiar gurgling sensation and drum-like sound given out by the tumour, when examined, and which gave us the idea that it was in some measure either dependent on the presence of intestine, or that the tumour communicated with the cavity of the abdomen, and therefore it rendered us anxious not to use surgical interference until more distinct marks of its character appeared. On opening the swelling, the gurgling noise was fully accounted for by the escape of air with the pus; and I doubt not this air was generated by decomposition of the cellular tissue surrounding the parts, and communicating with the sac of the abscess. Another symptom (no stethoscopic examination could reveal disease of any of the organs of the chest), was the peculiar paroxysms of syncope. It is quite impossible for any one but an eye-witness to imagine the peculiar nature and the severity of these attacks; and frequently we considered the patient in a dying state from them. They probably arose from the extreme irritation and exhaustion the system was undergoing while purulent matter was being formed; for, on the complete formation of the pus, they gave way considerably; and shortly after its exit they entirely disappeared. The powers of the constitution in this man were obviously shewn; and the benefit to be gained by freely pushing stimulants, with care, was extremely well marked; for he rallied wonderfully, when all hopes of life had nearly ceased. The stage of sphacelus, which for a few hours appeared, I attribute to the application of a cold poultice to the parts by mistake. The extreme want of constitutional power in the system rendered cold applications positively dangerous. Upon the restoration of warmth it speedily gave way. The hernia on the side of the injury descends far less than on the left, and for the first few weeks it could be barely said to come down at all; in fact, its descent now only takes place on violent straining or exertion. This, I consider, was from the abdominal ring being obliterated in a great degree by the inflammatory action taking place upon and around it. I have found much difficulty (since recovery) in this case, in adapting a truss to the right side, owing to the pain it gave him when he first commenced wearing it; but having now had it constructed with a soft, slightly concave pad in the centre, and elongated nearly half an inch more than usual, he manages to wear it without uneasiness. There is at present some pain on pressure over the abdominal ring, and the cup-like depression from the former pad of the truss still exists. The right testicle and the spermatic cord are quite healthy, and of their natural size.

The similarity of this disease, in many respects, to hernia, is very strong; and the case might easily have, at the onset, been mistaken by an indifferent observer for one of strangulated scrotal hernia.

1st. The swelling descended from the abdomen in the course of the cord, which was also situated behind it.

2ndly. It protruded much while the patient was in the erect posture.

3rdly. It gave some impulse on coughing.

4thly. The gurgling noise, and the drum-like sound of the tumour, appeared as if it contained flatus.

5thly. The costiveness and sickness which frequently appeared, and had not the intestine readily returned, the other symptoms, would, I doubt not, have led to the diagnosis that the whole arose from hernia.

MATERIA MEDICA AND PHARMACY.

PHARMACEUTICAL PREPARATIONS OF MANGANESE

In his article on Manganese, in the *Revue Médico-Chirurgicale*, from which we have already quoted, M. Hannon gives the following list of the pharmaceutical preparations of this substance.

Oxide of Manganese. This is a very good preparation, especially when obtained by the humid method: it should therefore be made only when it is wanted for use. The best mode of prescribing it, is to add to an ounce of simple syrup half a drachm or a drachm of the hydrated oxide, with some oily emulsion, to prevent the contact of the air.

Carbonate of Manganese is best prepared by dissolving seventeen ounces of pure crystallized sulphate of manganese, and nineteen ounces of carbonate of soda, in a sufficient quantity of water. Double decomposition takes place; an ounce of syrup is added to every seventeen ounces of the liquid, and the precipitate is allowed to settle, in a well-stopped bottle. The supernatant fluid is then decanted off; the precipitate is washed with sugared water, and allowed to drain on a cloth saturated with simple syrup; it is then expressed, mixed with ten ounces of honey, and rapidly evaporated (the access of air being prevented) to a proper consistence for making pills. The sugar and honey oppose the transformation of carbonate of the protoxide of manganese (*carbonate manganeux*) into carbonate of the peroxide (*carbonate manganique*), which is but little soluble in the acids of the stomach. The dose is from four to ten pills, each four grains, every day in chlorotic cases, where iron has not succeeded. The hyperoxidation of the carbonate of manganese may be prevented by adding freshly prepared vegetable charcoal to the pills; it absorbs the carbonic acid which is disengaged by a partial decomposition, and enables the pharmaceutist to dispense with the use of mucilage, which only increases the hardness of the mass.

Neutral Malate of Manganese. This is procured by treating carbonate of manganese with malic acid. It is an eligible preparation, as the base of the salt is in the form of protoxide, and the acid is easily digested. The dose is from two to four grains, in pills.

The preparations of manganese have this immense advantage over those of iron, that they can be combined with vegetable tonics and astringents, namely, tannin, and the substances which contain it, as gall-nuts, rhatany, catechu, dragon's blood, kino, monesia, canella, and cinchona. These can all be combined with malate of manganese. *Syrup of malate of manganese* consists of, simple syrup, ʒxvi; malate of manganese, ʒi; essence of lemon, ɜij: an ounce of syrup contains 29 grains of malate of manganese. *Pills of malate of manganese.* Malate of manganese, gr. xv; powder of cinchona, gr. xv; honey, a sufficient quantity to make twenty pills. *Lozenges of malate of manganese.* Malate of manganese, ʒi; sugar, ʒxi; mucilage of tragacanth, a sufficient quantity. To be formed into lozenges, each twelve grains in weight; each of which contains a grain of the salt.

Tartrate of Manganese is prepared in the same way as the malate, tartaric acid being used. It may be substituted for the malate in all the above-mentioned formulæ; and is used to prepare the following highly tonic syrup. Syrup of tolu, ʒxvii; extract of rhatany, ɜiiss; tartrate of manganese, ɜiiss. Dose, from four to five spoonfuls daily.

Phosphate of Manganese is best prepared by dropping a solution of phosphate of soda into a solution of sulphate of manganese. The precipitate is collected after filtration, dried, and preserved in well-stopped bottles. This preparation may be employed, like the phosphate of iron, in cancerous affections. *Pills of phosphate of manganese.* Phosphate of manganese, ɜiss; powder of cinchona, ɜss; syrup of catechu, a sufficient quantity. To be divided into four-grain pills. *Syrup of phosphate of manganese.* Phosphate of manganese, ɜss; syrup of tolu, ʒiii, ɜiii; syrup of cinchona, ʒv; essence of lemon, ɜiss; powder of tragacanth, gr. x. This preparation must be made quickly, and preserved in a well-stopped bottle. *Lozenges of phosphate of manganese.* Phosphate of manganese, ʒi; sugar, ʒxii. Mix and divide into twelve-grain lozenges, each containing one grain of the phosphate.

Iodide of Manganese is prepared by digesting recently precipitated carbonate of manganese with fresh hydriodic acid; then filtering, and evaporat-

ing, the access of air being prevented. It may more conveniently be prepared extemporaneously, by mixing together an ounce of iodide of potassium, and the same quantity of sulphate of manganese, perfectly dried, and in the state of powder. It is then made into a pill-mass with honey, and divided into pills, each containing four grains of the iodide ; which should be kept in a well-stopped bottle. The dose is at first one pill daily, gradually increased every three days, to six pills ; the medicine is then omitted for eight days, after which it is resumed. *Syrup of Iodide of Manganese* is prepared by adding concentrated hydriodic acid to a drachm of perfectly pure hydratid carbonate of manganese, until it be entirely dissolved ; then mixing with the solution 17 oz. of a syrup of guiacum and sarsaparilla. Doses, from two to six spoonfuls daily.

In cases where iron has not succeeded, it is desirable not to make a sudden transition to manganese, but to combine the two remedies, as in the following formula. Pure crystallized sulphate of iron, ʒxiii.; pure sulphate of manganese, ʒiiiss.; pure carbonate of soda, ʒxviiss.; honey, ʒx.; syrup, as much as may be sufficient to make a mass, to be divided into 4-grain pills. Dose, from two to ten pills daily. The insoluble preparations of manganese should be first used, as the carbonate, phosphate, and oxide ; then the more soluble preparations, the tartrate, malate, etc., may be employed. The use of this medicine should not be persevered in so long as that of iron, as its preparations are more rapidly assimilated. Manganese is not, like iron, found in the excrements of persons who take it—at least it is in very small quantity.

In the depraved state of the blood which succeeds intermittent fevers, manganese is useful ; it is the most certain remedy for preventing a return of the attacks. Leucophlegmasia and engorged spleen, of long duration, are rapidly reduced by the use of iodide of manganese with syrup of cinchona. The preparations of manganese should also be used in urethro-vaginal catarrh in chlorotic patients, and in chronic blennorrhœa, especially in individuals weakened and rendered anæmic by excess. The salts of manganese, with which we are acquainted, are powerfully astringent, and may be used as external applications, in all cases where other astringents are not indicated. In this respect they possess no other peculiarity.

ANHYDROUS NITRIC ACID.

The existence of Anhydrous Nitric Acid has hitherto been doubted, from the impossibility of obtaining it. M. Deville has succeeded in isolating it, by means of the action of perfectly dry chlorine on nitrate of silver. The product obtained is in the form of prismatic colourless crystals, perfectly bright and limpid, and capable of attaining a considerable size. It melts at 29°5 cent. (85·1 Fahr.), and boils at about 45° cent. (113 Fahr.) : its density at 10° cent. (50 Fahr.) is very considerable. It dissolves in water, with great increase of heat, but without producing any colour, or disengagement of gas. [*Comptes-rendus de l'Institut*, as quoted in *L'Union Médicale*, 13 Mars, 1849.]

COLPACHI BARK—A NEW BITTER.

Dr. James Stark, of Edinburgh, recommends the bark of the Colpachi (Croton Suberosum of Humboldt, and C. Cascarilla of Don), as a light, agreeable, aromatic bitter. The infusion and decoction are best made of half an ounce of bark to one pint of water ; and the tincture, of one ounce of bark to one pint of proof spirit. Doses : *Infusion and Decoction*, ounce or half-ounce twice or thrice daily ; *Tincture*, one or two drachms ; *Extract*, one or two grains. Vide *Edinb. Med. and Surg. Journal*, April, 1849. pp. 410.

REPORTS OF SOCIETIES AND ACADEMIES.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

The Seventeenth Anniversary Meeting was held at Worcester, on Wednesday, the 1st, and Thursday, the 2nd of August, 1849. The following gentlemen were present.

Alcester.—George Wyman, Esq.
Alvechurch.—John Smith Gaunt, Esq.
Bath.—J. S. Bartrum, Esq.; W. J. Church, Esq.; Edmund Hodges, M.D.; John Kelvert, Esq.; R. W. Lindoe, M.D.; R. Marriott, Esq.; George Norman, Esq.; M. J. Taylor, Esq.; James Tunstall, M.D.
Bayton.—W. Welton, Esq.
Belbroughton.—J. L. Hobbes, Esq.
Bengeworth.—T. B. Cooper, M.D.; T. H. Porter, Esq.
Birmingham.—Samuel Berry, Esq.; Bell Fletcher, Esq.; James Johnstone, M.D.; Professor Knowles; Joseph Wickenden, Esq.
Blandford.—E. Oke Spooner, Esq.
Bolton.—James Black, M.D.
Brislington.—Charles Joseph Fox, Esq.
Brockton.—Joseph Hickman, Esq.
Bromyard.—E. W. Harvey, Esq.
Carlisle.—Thomas Barnes, M.D.
Cheltenham.—J. Abercrombie, M.D.; J. Allardyce, M.D.; W. Conolly, M.D.; W. Dalton, Esq.; Thomas Smith, M.D.
Chester.—James Edwards, M.D.
Chilcompton.—Farnham Flower, Esq.
Chippenham.—Charles Bailey, Esq.; W. H. Colborne, Esq.
Clifton.—W. Mortimer, Esq.
Derby.—James Heygate, M.D.
Droitwich.—John Pemberton, Esq.
Evesham.—J. B. Haynes, Esq.; Anthony Martin, Esq.; Oswald New, Esq.
Exeter.—R. L. Pennell, M.D.
Farnham.—W. Newnham, Esq.
Guildford.—J. Stedman, Esq.
Hanwell.—J. Conolly, M.D.
Hereford.—Henry G. Bull, M.D.; Charles Lingen, M.D.
Hill Court.—W. H. Ricketts, Esq.
Hillingdon.—Arthur Stilwell, M.D.
Holmes Chapel.—C. Radclyffe Hall, M.D.
Kempsey.—W. Todd White, Esq.
Kidderminster.—G. W. Jotham, Esq.; Thomas Thursfield, Esq.
Leeds.—R. G. Mayne, Esq.
Leicester.—Thomas Macauley, Esq.; Thomas Paget, Esq.
London.—George Burrows, M.D.; J. Churchill, Esq.; John Rose Cormack, M.D. (Putney); John Forbes, M.D.; S. Hare, Esq.; W. Harvey, Esq.; Thomas Hunt, Esq.; J. D. Jeffery, Esq. (Southwark); W. J. Little, M.D.; C. J. Lord, Esq. (Hampstead); James Paget, Esq.; Francis Sibson, M.D.; John Snow, M.D.; Joseph Toynbee, Esq.
Malvern.—Sherwin Coates, Esq.; W. C. West, Esq.
Manchester.—Charles W. Bell, M.D.; Samuel Crompton, Esq.; John Hatton, Esq.; Edmund Lyon, M.D.; Thomas Radford, M.D.
Market Harborough.—F. Wright, M.D.
Melton, Suffolk.—John Kirkman, M.D.
Munslow.—Charles Pothecary, Esq.
Newport.—E. Haward, M.D.
Northampton.—A. Robertson, M.D.
Oldham.—Thomas Fawsitt, Esq.
Ombersley.—Samuel Barnett, Esq.
Oswestry.—Peploe Cartwright, Esq.
Oxford.—W. A. Greenhill, M.D.
Pershore.—John Claridge, Esq.; Francis Davies, Esq.; Graham Niven, Esq.
Plymouth.—J. H. Fuge, Esq.
Reading.—Charles Cowan, M.D.; R. Woodhouse, M.D.; Thomas Workman, Esq.
Redditch.—Christoph. Royston, Esq.
Reigate.—Thomas Martin, Esq.
Royal Navy.—T. Spencer Wells, Esq.
Rugby.—James Paxton, M.D.
Severn Stoke.—Joseph Jones, Esq.
Southam.—H. L. Smith, Esq.
Southwold.—Robert Wake, M.D.
Stafford.—H. T. Lomax, Esq.
Stockport.—Richard Flint, Esq.
Stratford-on-Avon.—D. Rice, Esq.

Studley.—Henry Morris, Esq.
Sunbury.—John S. Soden, Esq.
Taunton.—F. H. Woodforde, M.D.
Thirsk.—W. Lambert, Esq.
Tinisbury.—John Crang, Esq.
Torquay.—J. J. Field, M.D.
Wirksworth.—W. Cantrell, Esq.
Wolverhampton.—G. Edwards, Esq.; J. Gates, Esq.; John Topham, M.D.
Worcester.—H. W. Budd, Esq.; H. D. Carden, Esq.; W. Cooksey, Esq.; J. Coker Davies, Esq.; David Everitt, Esq.; Richard Griffithes, Esq.; Charles Hastings, M.D.; Hilary Hill, Esq.; Richard Hill, Esq.; Walter James, Esq.; F. C. P. Malden, Esq.; J. Malden, M.D.; Josh. Meears, Esq.; James Nash, M.D.; D. C. Noel, Esq.; M. Pierpoint, Esq.; James Robertson, Esq.; Jas. P. Sheppard, Esq.; T. S. Tearne, Esq.; J. H. Walsh, Esq.; T. W. Walsh, Esq.; P. H. Williams, M.D.

From the prevailing sickness and cholera panic, the attendance of members was much less numerous than it would otherwise have been; nevertheless, from the above list,—not complete, we fear,—the meeting may be correctly stated as large and very influential.

First General Meeting

was held at the Natural History Rooms, Foregate-street, at one o'clock.

Dr. Hastings, on taking the Chair, was greeted with great applause, which lasted for several minutes. He delivered the following Address:

Friends and Fellow Members,—The elevated position in which your kindness has placed me, is calculated to awaken considerable apprehensions as to my capability of fulfilling its responsibilities. I have so high an opinion of the great trust you have reposed in me, and, by long experience, so just a diffidence in my abilities to fill it in a manner adequate even to my own ideas, that I should never have intruded into so high a situation, if I had not felt sure that I was acting in accordance with your wishes, and that I should be supported in my office by the same kindness and consideration that have ever marked the bearing of the members of this Association to their President.

It is now seventeen years since, in this very city, it fell to my lot to propose a plan upon which an Association might be formed, having for its object the advancement of medical science, and the elevation of the character of the cultivators of the art of medicine resident in the provinces. The glowing anticipations I then entertained have been fully realized by the results of the last seventeen years; or rather, the success which has attended our endeavours to combine and consolidate the energies of the provincial profession, has surpassed the expectations then formed of the probable progress of the Association. Instead of being, as then, a comparatively small body, you have increased nearly twentyfold; and there are now enrolled, as members of the Society, a considerable proportion of the whole medical profession of this country. Among the many advantages arising from the organization of the Society, the scientific and social benefits resulting from these happy annual meetings are so present to my mind, that I cannot avoid reverting to them now, when, after a series of years, you revisit the birth-place of the Association; for all these tend to heighten the delight which I experience in cordially welcoming you to this ancient and interesting city, where you will be received with all the honour which my medical brethren at Worcester so well know how to bestow.[1]

If we seek for further testimony to the beneficial results of the Association, we may find it in the investigations in which the members of the Society have been engaged, and of which our published Transactions and Journal are a fair monument; for our publications contain proof that all subjects originally proposed for investigation have received some attention, and that

[1] The hospitality and cordial welcome of the resident medical brethren, to members from other places, will not soon be forgotten by those who attended the late meeting in the ancient city of Worcester.

a harvest more or less abundant has been reaped. There is one department of inquiry originally proposed, in which we appear to have been less successful than in some others, the collection of Reports from Provincial Hospitals; but I am glad to observe that, within the year that has passed, the JOURNAL has been enriched by several valuable communications of this kind.

I must also note as deficient, the inquiries into the MEDICAL TOPOGRAPHY OF ENGLAND. There are, no doubt, to be found in our Transactions many valuable essays on this subject, but there are localities, where members of the Association are resident, concerning which many interesting particulars, as to soil and climate, manners and customs of the inhabitants, state of public health, and other particulars, might be collected. On these points especially, provincial practitioners have the means of gathering contributions, and thus of supplying a more perfect system of vital statistics than we at present possess.

The question of MEDICAL LEGISLATION has assumed an importance, since this Association was called into existence, previously unknown, and we have been engaged in laying deeply and broadly the foundations on which it must ultimately rest.

In my Address at the formation of this Society, I observed: "It is admitted on all hands, that the organization of the profession is not what it ought to be, for the whole system of medical polity in this country is both defective and erroneous. Opinions differ widely as to the evils and remedies; but few are found to commend the existing order of things. This subject is closely connected with the advancement of medical science; for if the profession were constituted as it ought to be, and as reason and sound principle dictate, the harmony that would be thus established among the several departments, could not fail to prove a direct means of their co-operating more cordially and efficiently in extending the science, and improving the practice."

At that time, it was my good fortune to enjoy the friendship of one who had thought deeply on medical ethics, and to whom the history of the alterations which had been slowly going on in medical polity were familiar, and who was also keenly alive to the incongruities that had arisen from the defective organization of the profession. Fortunately for the onward progress of this Association, that eminent individual actively co-operated in modelling the yet unformed constitution of this Society, and more especially in assisting our early deliberations on the course to be taken on the growingly-important question of medical reform. Need I utter the name of Barlow? Is it not present to you all?—a name never to be mentioned in this assembly but with the greatest respect. Feelings of sorrow are at this moment mingled with our joy, when we reflect that he and others are departed, and their voices will be no more heard among us! And here we must especially deplore the very severe loss the Association has this year sustained, in the sudden and unexpected death of our late inestimable Secretary, and my much valued friend; but the occurrence is too recent, and the circumstances too afflicting, to permit me to dwell upon them,—

> "Pallida mors æquo pulsat pede pauperum tabernas,
> Regumque turres."

I was just saying that Dr. Barlow had given profound attention to the question of medical legislation; and under his guidance chiefly, certain fundamental conclusions were arrived at, after much pains and labour, which we conceive must be the basis of any enlarged measure of medical legislation. They are enunciated in three short propositions.

I. Uniformity of primary qualification.

II. Equal right to practise throughout Her Majesty's dominions.

III. The adoption of the representative system in the formation of the councils or governing bodies.

These are the principles for which we are now contending, and with every prospect of ultimate success. Circumstances have arisen to delay the final settlement; but the good day must come.

There is, perhaps, no point of view in which the defects of our medical polity are more apparent, than in considering the medical attendance on the sick poor. The law provides, that during sickness the poor shall have medical attendance; yet the authorities constituted to carry out that benevolent intention have, in many instances, by their hard dealings with the medical attendants under the Poor-Law, gone far to deprive the sick-poor of the necessary succour; and, but for the generous devotion of the profession to their arduous duties, irrespective of pecuniary considerations, this must have been the case. Happily, the intervention of this Association, and other influential bodies, has in a degree mitigated these crying evils, and we see the dawn of better things.

It is evident, therefore, that in the absence of a more perfect state of organization of the medical profession, it is highly important that the members of this Society should consider it their bounden duty to devote their best energies to the advancement of the divine art which they cultivate; and we must remember, that one of the special objects of our meeting is to maintain the honour and respectability of the profession in the provinces, by promoting friendly intercourse and free communication of its members; and to establish among them the harmony and good feeling which ought ever to characterize a liberal profession. For all the evils which now oppress medicine, the influence of this Association must be potent, if we do but sedulously carry out those principles of medical ethics, which exist in every well-governed mind, and are identical in all circumstances, however variously they may be applied.

In Worcester, the medical Institutions are the Worcester General Infirmary, the Worcester Dispensary, and the Worcester Ophthalmic Institution. [Here Dr. Hastings gave an interesting account of these Institutions, and of the Worcestershire Natural History Society.]

In conclusion, let me give expression to the great joy with which I hail this day—*O diem lætum notandumque mihi candidissimo calculo!*—the day that this Association revisits Worcester, once the capital of an ancient kingdom, but more closely linked to us as the centre of our flourishing Society. Let me also assure you, that in anything which concerns the cause of science, and the interests of humanity, you may command my humble services, and that I highly value this Association, for I there witness the triumph of the social principle, and the subjection of all low, paltry, and selfish interests to the interests of man. I earnestly recommend you all to cherish this social principle; it is the principle which promotes peace; it is the principle of true honour; it is the principle of the Christian religion. [Dr. Hastings resumed his seat, amid loud and long-continued cheering.]

Report of the Council, read by J. P. Sheppard, Esq. [Our limits only enable us to give extracts from this document.]

Secretary and Editor. The death of Dr. Streeten has created a vacancy in the office of Secretary, and also in that of Editor. The Council recommend that in future these offices be not held both by the same person. They advise that Mr. Sheppard, who has kindly undertaken the duties, *pro tempore*, and who also was formerly Honorary Secretary, be appointed the Secretary. As several applications have been made by members for the Editorship of the *Journal*, the Council believe that the best mode will be to refer these applications to a Committee, empowered to appoint an Editor.

Financial Statement. The Secretary then read the Treasurer's Statement of Accounts. The Receipts for the past year amounted to £1718. 0*s.* 4*d.*; the Expenditure to £1701. 17*s.* 10*d.*; leaving a Balance in the Treasurer's hands, of £16. 2*s.* 6*d.*

Dr. Burrows, of London, moved the adoption and printing of the Report, which was seconded by Dr. Little, of London, and unanimously agreed to.

Appointment of Secretary. Dr. J. Conolly moved that J. P. Sheppard, Esq. F.R.C.S., be elected Secretary to the Association. Dr. Forbes seconded the resolution, which was carried unanimously. J. P. Sheppard, Esq., in

returning thanks for the honour they had so unanimously and kindly conferred upon him, called the attention of the Association to that part of the Report of the Council bearing reference to the payment of the subscriptions, and remarked that, at the present time, there were arrears of subscriptions (only reckoning those who were in arrear more than three years) of £1,823!! It was absolutely necessary to proceed on more stringent principles with reference to the payment of the subscriptions. With the support and cooperation of the Society he would unflinchingly do his duty with reference to the arrears.

J. Soden, Esq., of Bath, moved, "That the thanks of this meeting be given to G. Norman, Esq., F.R.C.S., the retiring President, and that he be appointed a Vice-President of the Association." Dr. Robertson seconded the motion, which was carried unanimously. Dr. Tunstall, of Bath, moved, "That the thanks of this meeting be given to the Council of last year, and that the following additional members be added: Dr. Williams, Worcester; Thomas Stephenson, Esq., Worcester; Richard Hill, Esq., Worcester; Dr. Butter, F.R.S., Plymouth; John M. Faircloth, Esq., Northampton." Mr. Lambert, of Thirsk, seconded the resolution, which was carried unanimously.

The Editorship. Dr. Conolly, of Cheltenham, moved the following resolution: "That the President and Vice-Presidents of this Association be appointed a Committee, to make such investigations as they may think necessary, into the qualifications of those gentlemen who may be willing to undertake the office of editor of the *Journal;* and that they may be empowered to fill up the office, and to report their appointment to the Council within three months,—such appointment being subject to confirmation or rejection at the Anniversary Meeting in 1850." Mr. Bartrum, of Bath, moved, as an amendment, that the following gentlemen form an addition to the Committee: Dr. Forbes, Dr. Budd, Dr. Greenhill, Dr. Cowan, and Dr. Bell. Mr. Crompton thought the present an admirable opportunity for the Committee to take into consideration the general management of the *Journal*, and its cost of production; for he had good reason for supposing the cost of the production of the *Journal* at Worcester, was greater than if it were done by one of the first London houses, and in the first London style; and he had the opinion of a most competent judge, to whom the *Journal* had been submitted, whose remark was,—that the *Journal* was badly printed on bad paper, with bad ink, badly edited, and, he might say, badly folded. Under these circumstances, he moved, as an addition to the amendment, "That the Committee should make such an inquiry into the business of the *Journal*,—more especially with reference to the cost of its production,—and also, as to whether it was desirable that it should be continued to be printed at Worcester." The President observed, that the proper course would be, to put the amendment first, then the resolution, and then to put Mr. Crompton's suggestion as a substantive motion, after the other business on the paper had been disposed of. Mr. Norman wished to know whether the Committee to be appointed for the selection of an editor, would have power to select, as editor, any member of the Association; or whether it be necessary that he be a resident of Worcester. The President. With respect to the publication of the *Journal*, it is at present one of our rules that it be published in Worcester; but the Committee would deliberate upon the selection of an editor, without regarding particular localities.

The amendment having been put from the Chair, was lost by a large majority; the original motion for the appointment of a Committee, consisting of the President and Vice-Presidents only, was then carried.

Proposed Essay on the Epidemic Visitation of Cholera. Mr. Flint, of Stockport, then moved the following resolution:—"That the Council be requested to take into their consideration, whether it will not be desirable, as soon as the present epidemic visitation of Cholera has passed away, to issue a series of questions to the members, similar to those issued after the close of the epidemic catarrh, in 1837, requesting information respecting the origin, progress, and duration, of the epidemic; its symptoms and treatment; the

atmospheric phenomena preceding and attending it; together with such other particulars as may be necessary for the elucidation of many questions of interest connected with its appearance." Dr. Cowan, of Reading, seconded the resolution, which was carried.

The Journal. Mr. Crompton, of Manchester, then brought forward his resolution, about the getting up of the *Journal*. Dr. Cormack, of Putney, thought well of the *Journal*: but still, if it were clearly stated that Mr. Crompton's motion implied no censure on the former or present management, he would be inclined to vote for it. Dr. Greenhill, of Oxford, seconded the resolution. Dr. Robertson, of Northampton, bore testimony to the value of the *Journal*. There was one most noble feature in it, that it had never disgraced itself by asperities, but had endeavoured to cultivate good feeling among all classes of the profession. It had been conducted for many years, during the whole of which the editors might say, "We have never hurt the feelings of one worthy man." (Cheers.) Mr. Crompton explained, that he cast no imputation on the late editor, nor on the Council. Dr. Heygate, of Derby, took the same view as that taken by Dr. Robertson; and the President, in putting the resolution, said, that the Council had been considering attentively how they could lessen the expenditure upon the *Journal*. Two years ago the whole matter had come before a Committee of Inquiry, and considerable alterations had been effected. Mr. Churchill, who was a very extensive publisher in London, and a man of great knowledge on the subject, had told him (Dr. Hastings) only the other day, that so far from thinking there was any extravagance or bad management, he was only surprized that the Association could give so much matter as they did to their members, for so small a subscription. The resolution moved by Mr. Crompton was negatived by a large majority.

Mr. Edwards's Case. The President then said, that he had to bring before them a matter of great delicacy, respecting Mr. Edwards, of Wiveliscombe. Some time since, a Mr. Blake had, by means of false certificates, obtained a diploma from the College of Surgeons, and commenced practising. The Somerset and Taunton Branch of this Association took the matter up, and brought it before the College of Surgeons, who were so satisfied that the matter was as stated by the Branch, that they removed the name of Mr. Blake from their list, and he was consequently deprived of his diploma. He still, however, continued to practise in Taunton; but the profession at Taunton considering that he was an unqualified person, after being deprived of his diploma, refused to associate with him, or meet him in consultation. Mr. Edwards, on the contrary, although living eleven miles from Taunton, had frequently gone to that town, after the declaration of the professional gentlemen, and entered into consultation with Mr. Blake. In addition to being a member of the Association, Mr. Edwards was the President-elect for the Taunton Branch for the ensuing year; and the Branch brought the matter before the Worcester Council in May last, and had put three questions to them:—First, as to whether Mr. Blake was a qualified practitioner; and if not, whether Mr. Edwards was justified in meeting Mr. Blake in consultation; to both of which questions they had answered in the negative; and, thirdly, they had asked what, under the circumstances, the Worcester Council would advise them to do with regard to Mr. Edwards being the President-elect. The advice they had given them was, that they should request Mr. Edwards to resign the Presidency, which was accordingly done, and Mr. Edwards resigned. Mr. Edwards's name still remained on the books of the Association; it could not, however, remain longer under the circumstances, and it therefore became necessary to carry into operation the 22nd rule, which was framed for the purpose of meeting such cases. Dr. Woodforde proposed, and Dr. Heygate seconded, the following resolution, which was carried unanimously:—"That at the request of the West Somerset Branch of the Association, it is proposed that the name of A. F. Edwards, of Wiveliscombe, be removed from the list of members of the Association, on account of

unprofessional conduct in habitually consulting with an unqualified person." Mr. Soden proposed, and Mr. Flint seconded, the following resolution, which was also carried unanimously :—"That this meeting express its high admiration of the West Somerset Branch, in acting with so much decision and energy in upholding the dignity and honour of the profession, by bringing before the Association the unprofessional conduct of Mr. Edwards, and that the thanks of the meeting be given to the West Somerset Branch, and also to the Central Council, for their judicious advice on this unpleasant occasion."

Medical Ethics. Dr. Conolly, of Hanwell, then moved the following resolution, which was seconded by Mr. Crang, and carried unanimously : "That a Committee of five members be appointed, to consider the means advisable to be adopted with a view to bringing the subject of Medical Ethics before the medical profession." Dr. Greenhill, Dr. Robertson, Dr. J. Conolly, Dr. Mackness, and Mr. Flint, were named as the Committee. Dr. Conolly proposed, and Mr. Bartrum seconded, "That the Committee appointed by the Council to consider the best mode of bringing the subject of Medical Ethics before the Association, be requested to draw up a short code of Medical Ethics, which shall be forwarded to the Council of the Association previous to the Annual Meeting in 1850."

Papers and cases were then read, which we propose to notice, in a future number, under their respective departments.

Second General Meeting.

The members met at eight o'clock, in the Natural History Society's Rooms, when the chair was again taken by Dr. Hastings.

Benevolent Fund. Mr. Newnham, of Farnham, read the Report of the Benevolent Fund :—

Financial Statement for the Year ending June 30, 1849.

Donation Fund.	£.	s.	d.	Subscription Fund.	£.	s.	d.
Balance of last year -	103	15	3	Balance July 1st, 1848 -	102	12	8
Interest for the year -	59	10	0	Subscriptions to June 30,			
Donations in the year -	203	12	9	1849, inclusive - -	416	15	2
	366	18	0		519	7	10
Per Contra -	186	14	6	Per Contra -	490	2	11
Balance -	180	3	6		209	8	5

Balance in hands of Treasurer, July 1st, 1849.

	£.	s.	d.
Donation Fund - - - - - - - - - -	180	3	6
Subscription Fund - - - - - - - - -	29	4	11
Total - - - - - - - -	209	8	5

Dr. Cowan, of Reading, then moved, "That the Report now read be received and adopted; and that the thanks of the Association be given to Mr. Newnham, of Farnham, for his unwearied exertions in promoting the interests, and increasing the amount of the Benevolent Fund, and that he be requested to continue his valuable services as Secretary." The resolution was carried by acclamation.

Physiological Address. Dr. Sibson, of Nottingham, then delivered the "Address of Physiology", which elicited the greatest admiration.

Third General Meeting.

Monument to Jenner. Dr. Robertson, of Northampton, moved the following resolution : "That a Committee, consisting of the following gentlemen, viz., the President of the Association, Dr. Baron, F.R.S., Mr. Ceely, Dr. John Conolly, and Dr. Forbes, be appointed to correspond and cooperate with the Committee formed, or about to be formed, in London, with reference to the erection of a public monument to the illustrious Jenner." Dr. Heygate, of Derby, seconded the motion, which was carried unanimously.

Address in Medicine. Dr. Bell, of Manchester, then proceeded to deliver the Address of Medicine, of which, and Dr. Sibson's address, we will take notice, when they appear in due course in the transactions of the Association. A full account of the whole proceedings, including the public breakfast and dinner, will be found in the Provincial Journal.

Every thing gave every body satisfaction; the general feeling seemed to be that the Association, in spite of its "Provincial" name [after all a misnomer], was in reality the most influential, as well as the most numerous Medical Institute in the United Kingdom. Long may it flourish in its native and inherent strength, and may it take warning from other Medical Bodies, and never be tempted to come under the wasting and deadening trammels of a Royal charter. It is to the free and unfettered Provincial Medical Association, that we must mainly look for guidance and protection in the present times of difficulty and danger to the profession.

MISCELLANEOUS INTELLIGENCE.

Renunciation of Homœopathy in the Treatment of Cholera, by Dr. F. F. Quin, President of the British Homœopathic Society. The present emergency has called forth the following complete, though unobtrusive recantation of infinitesimal trifling with Cholera. Dr. Quin recommends camphor in heroic doses. He trembles to trust to the inert attenuations—the ostensible materia medica—of his system. He is too sly to state explicitly that homœopathy is a delusion, and that people treated by homœopathic remedies, in homœopathic doses, are not treated at all. Being, however, somewhat reluctant to assist in enlarging the catalogue of homœopathic catastrophes, he makes a compromise with his conscience, and recommends what, we have no hesitation in saying, is one of the very best, and, we believe, the most common method, among regular physicians, of treating choleraic spasm. That there may be no misunderstanding, or alleged misrepresentation, we quote the passages which contain his views on this remedy.

"If the above symptoms" (premonitory diarrhœa, etc.) "are accompanied or succeeded by cramps in the bowels or in the limbs, with or without rigors, sensation of cold, rigidity of the muscles, and vomiting, which is a constant but not an invariable symptom, then the concentrated spirit of *camphor* should at once be given. My preparation of this remedy is *one* drachm of camphor to *six* drachms of alcohol. Two drops every four or five minutes on a small piece of sugar, till profuse perspiration sets in, and the cramps, vomiting, and diarrhœa diminish; as the symptoms diminish in intensity, the intervals between the doses to be lengthened to every ten, fifteen, and thirty minutes, to every hour, two hours, and so on, till at last the remedy be only given twice or even once a day." Again, in another part of his paper, Dr. Quin recommends families and medical men to keep at hand several homœopathic remedies (which he mentions), "and especially the spirit of camphor, which is the easiest of administration, and the most efficacious in the onset of the disease. It even may be of great service in the case of those who would not submit to comply with other parts of the homœopathic treatment. In fact, camphor is a remedy which allopathic practitioners may use with the greatest advantage. He will in many cases find no other remedy required. If a homœopathic practitioner be called in to a case that has been so far treated allopathically, he should begin with four or five drops of *camphor*, to be given every four or five minutes, at least several times, to re-animate the system depressed by disease, and to neutralize the action of the medicines previously taken; and then proceed to *veratrum*, *capsicum*, etc., according to the indications. The same instruction applies to the allopathic practitioner, who, from a sense of the failure of his own usual resources, may be willing to make trial of the homœopathic remedies." (*The Homœopathic Times*, No. I, August 4, 1849.) There is no end to the great discoveries of the homœopaths. Camphor in large doses (we must henceforth remember) "neutralizes the action of medicines previously taken": it is therefore, we presume, to be used as a universal antidote in poisoning.

APPOINTMENTS.

Andrews, Thos., M.D., F.R.S., appointed Professor of Chemistry in Queen's College, Belfast
Blyth, J., M.D., appointed Professor of Chemisty in Queen's College, Cork.
Brown, James V., M.D., B.A., appointed Professor of Surgery in Queen's College, Galway.
Bullen, Denis B., appointed Professor of Surgery in Queen's College, Cork.
Burden, William, M.D., appointed Professor of Midwifery in Queen's College, Belfast.
Canton, Edwin, Esq., elected Surgeon to the Royal Infirmary for Diseases of Children, in the room of Francis Hird, Esq., resigned.
Carte, Alex., M.D., appointed Professor of Anatomy and Physiology in Queen's Coll., Belfast.
Carpenter, William B., M.D. Edin., etc., appointed Professor of Medical Jurisprudence in University College, London, in the room of Dr. A. T. Thomson, deceased.
Carlile, Hugh, M.D., appointed Prof. of Anatomy and Physiology in Queen's Coll., Cork.
Colahan, N., M.D., appointed Professor of Medicine in Queen's College, Galway.
Dickie, Geo., M.D., appointed Professor of Natural History in Queen's College, Belfast.
Ferguson, John C., M.D., elected Prof. of the Practice of Medicine in Queen's Coll., Belfast.
Fleming, Alex., M.D. Edin., appointed Professor of Materia Medica in Queen's Coll., Cork.
Flourens, M., appointed Director of the Académie Française at Paris, for six months.
Gordon, Alexander, M.D, appointed Professor of Surgery in Queen's College, Belfast.
Guerin, Dr., appointed, by concours, Prosector in the Amphitheatre of Anatomy, Paris.
Harvey, J. A., M.D., appointed Professor of Midwifery in Queen's College, Cork.
Hinks, William, LL.D., appointed Professor of Natural History in Queen's College, Cork.
Jenner, William, M.D. Lond., appointed Professor of Pathological Anatomy in University College, in room of Dr. Walshe, who has succeeded Dr. Williams.
King, Croker, M.D., appointed Professor of Anatomy and Physiology in Queen's Coll., Galway.
M'Cay, Simon, M.D., appointed Professor of Materia Medica in Queen's College, Galway.
Melville, A. G., M.D., appointed Professor of Natural History in Queen's College, Galway.
Merriman, S. W. J., M.D., elected, on the 24th August, one of the Physicians to the Royal Infirmary for Children.
O'Connor, D. C., M.D., appointed Prof. of the Practice of Medicine in Queen's Coll., Cork.
O'Meara, Thomas, M.D., appointed Professor of Materia Medica in Queen's College, Belfast.
Ronalds, E., M.D., appointed Professor of Chemistry in Queen's College, Galway.

OBITUARY.

Andrews, John G., Esq., F.R.C.S.Eng., Surgeon to the London Hospital, at his residence, St. Helen's Place, Bishopsgate Street, in the 68th year of his age, on 28th July. Mr. Andrews was a Member of the Council and Court of Examiners of the Royal College of Surgeons of England, and had been elected President in 1835 and 1843.
Bartholdi, M. C., Professor of Natural Philosophy, Chemistry, and Natural History, in the Central School of Colmar, at Munster, in his 87th year.
Berrill, Wm., M.D., Surgeon to the Forces, H.P., at Portsmouth, aged 56, on 18th July.
Bruce, Walter, M.D., at 22, Charlotte Street, Leith, on 18th August.
Burton, Henry, M.D., Senior Physician of St. Thomas's Hospital, at his residence, 41, Jermyn Street, after a few hours' illness, on the 10th August.
Duckle, Hen. Chas., M.D., of Pilham hall, Gainsboro', at Caen, Normandy, aged 46, on Aug. 2.
Finlay, John, M.D., at Paisley, on 2nd August.
Gilham, Dr., at Madeira, in the 34th year of his age, on 9th July.
Henderson, Wm., Assist.-Surg. R.N., at Hong Kong, on board H.M.S. Aligator, on April 11.
Hole, Richard Brassey, M.D., at Salisbury, on 23rd July.
Judson, J. H., Esq., Surgeon, late of Ware, Herts, at Henley-on-Thames, aged 77, on 11th Aug.
Kealley, Benj., Esq., Surgeon, of Lit. Newport St., Leicester Sq., at Stockwell, aged 36, July 27.
Key, Charles Aston, Esq., Senior Surgeon to Guy's Hospital, and Surgeon in Ordinary to H.R.H. Prince Albert, of Cholera, after a few hours' illness, at his residence, St. Helen's Place, Bishopsgate Street, on 23rd August. Mr. Key was one of the most eminent operative and consulting surgeons in London. He was well known, and in much repute throughout Europe.
Milburn, Henry, Esq., Surgeon, at Stockton, on 11th July.
Munro, Mr. William, formerly of Dingwall, N.B., at Stratford, Essex, on 9th August.
Reid, John, M.D. Edin., Professor of Physiology and Medicine in the University of St. Andrew's, aged 40, on 30th July. In a future number we propose to devote some pages to the life and writings of this eminent philosopher. His latter sufferings were terrible; but while he prayed earnestly for release from this world, he repined not, and thanked God for his affliction and the blessed influence it had had upon him. We refer our readers to a very true, though cursory estimate of his career, in the *Medical Times*.